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ABSTRACT

This publication is part of a series of self-instructional teacher training manuals designed to assist vocational-technical educators or industrial trainers to develop and implement competency-based vocational education (CBVE) programs in a school or industrial setting. The manual consists of the following sections: cover page that contains the task title, purpose, and information block; a statement of performance objectives, micro-performance objectives, learning activities, information sheets, activity sheets (self-checks), a written examination, a product/performance checklist, and references. This manual, which focuses on writing student learning guides or competency sheets for a competency-based program, covers the following topics: (1) identifying three types of learning guides; (2) developing a competency sheet; (3) developing two styles of student learning guides; (4) writing an information sheet; (5) writing an activity sheet; and (6) developing a competency sheet or student guide. (KC)

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COMPETENCY—BASED INDIVIDUALIZED VOCATIONAL EDUCATIONAL CONSORTIUM

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A LEARNING GUIDE

Task Write Student Learning Guides or Competency Sheets

Purpose The student learning guide (SLG) is the heart of a competency-based delivery system. The three most commonly used types of SLGs in Illinois are: The competency sheet, the ETE module, and the CIVEC SLG. It is important that you understand the components of a guide and how to write one. This manual will introduce you to the three types of SLGs and also teach you how to write one.

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SELF-INSTRUCTIONAL COMPETENCY-BASED PROFESSIONAL TEACHER TRAINING MANUAL

Program	Task	Est. Time	Prereq.
PTT	005	6 Hours	002, 003, & 004

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Write Student Learning Guides or Competency Sheets

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1985

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INTRODUCTION

This publication is part of a series of self-instructional teacher training manuals designed to assist vocational-technical educators or industrial trainers to develop and implement competency-based vocational education (CBVE) programs. Each manual addresses a different aspect of CBVE. The entire set is designed to enable instructors, administrators, or industrial trainers to develop the necessary skills needed to successfully develop and implement CBVE programs in a school or industrial setting.

Each manual contains the following sections: Cover page which contains the task title, purpose, and information block; inside pages of performance objective, micro-performance objectives, learning activities, information sheets, activity sheets (self-checks), a written exam, and a product/performance checklist.

Manuals have been developed for the following tasks:

1. Identify the Characteristics of a Competency-Based Vocational Education (CBVE) Program
2. Identify and Sequence Job Tasks
3. Write Measurable Performance Objectives
4. Construct Performance and Written Evaluation Instruments
5. Write Student Learning Guides or Competency Sheets
6. Adapt or Revise a Student Learning Guide or Competency Sheet
7. Identify Teaching/Learning Strategies and Management Techniques to Implement CBVE
8. Develop a Learning Resource Center
9. Orient Students to CBVE
10. Write a Student Performance Contract
11. Select and Design Print and Non-Print Resource Materials
12. Monitor Student Progress and Maintain Student Records

13. Assign Grades

14. Identify Administrative Support Necessary to Implement CBVE

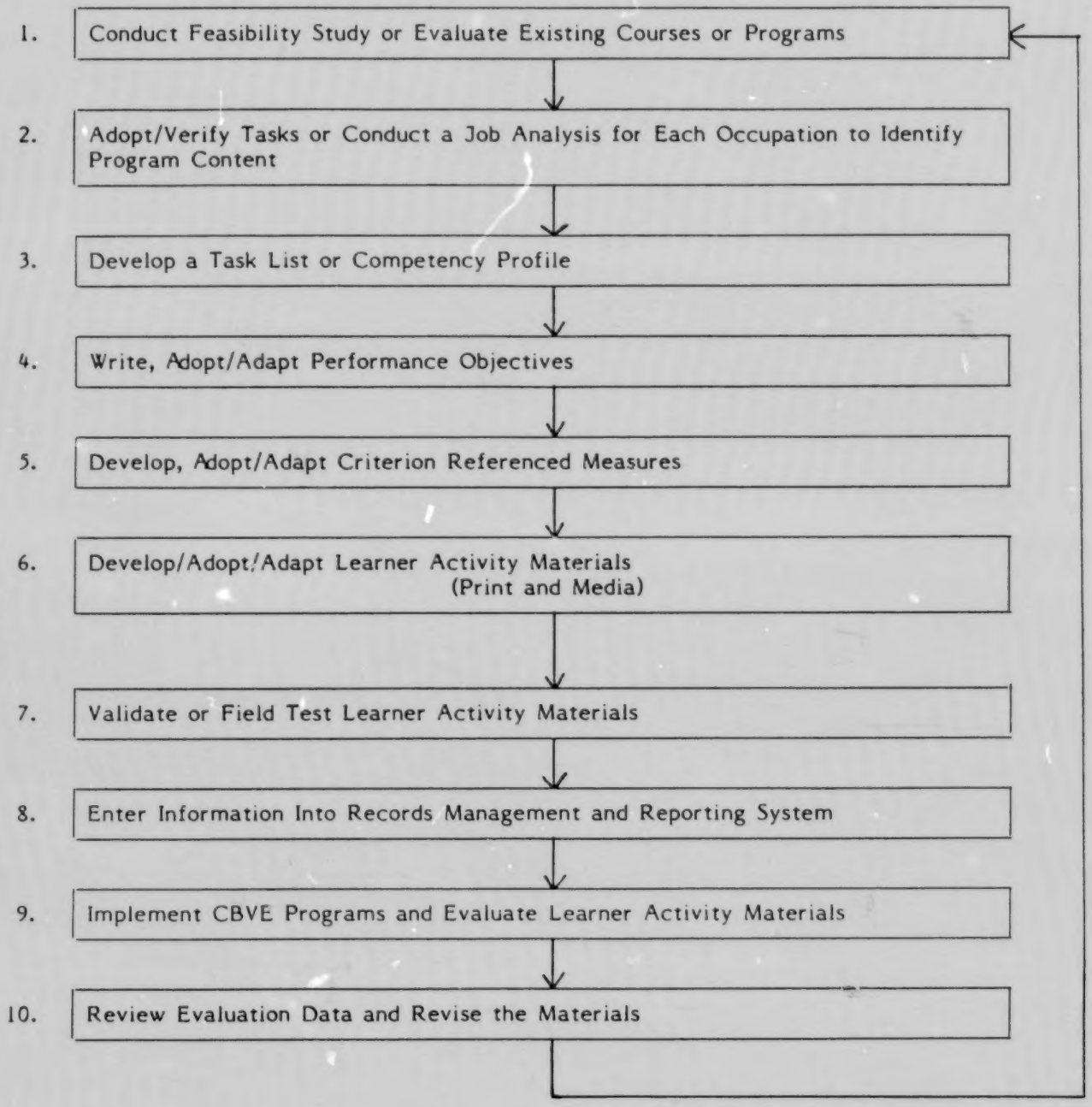
15. Prepare a Staff Development Program

Using the following CBVE systems development model, instructors, trainers, or administrators can develop and implement CBVE programs.

The following institutions deserve credit for the use of some of their materials in the development of these manuals:

- District 916 Area Vocational-Technical Institute, 3300 Century Avenue North, White Bear Lake, MN 55110
- Stephenson Area Career Center, Pearl City Road, Freeport, IL 61032
- Maryland State Department of Education, Division of Vocational Technical Education
- University of South Florida, Division of Vocational Education, Tampa, Florida

CBVE Curriculum Development Model


1. Conduct Feasibility Study or Evaluate Existing Courses or Programs
2. Adopt/Verify Tasks or Conduct a Job Analysis for Each Occupation to Identify Program Content
3. Develop a Task List or Competency Profile
4. Write, Adopt/Adapt Performance Objectives
5. Develop, Adopt/Adapt Criterion Referenced Measures
6. Develop/Adopt/Adapt Learner Activity Materials (Print and Media)
7. Validate or Field Test Learner Activity Materials
8. Enter Information Into Records Management and Reporting System
9. Implement CBVE Programs and Evaluate Learner Activity Materials
10. Review Evaluation Data and Revise the Materials

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	

FOREWORD

At this point in your training, you have mastered steps 1-5 in the CBVE curriculum development process. You are now ready to explore the three major types of learning guides. Decide which one best meets your needs and learn how to develop, adopt, or adapt it.

Your regional ICBVE consultant can help you with this process and can help you with guidelines for clerical help to facilitate the production process.

OBJECTIVES OF THIS MANUAL

1. TERMINAL PERFORMANCE OBJECTIVE

GIVEN: Access to all necessary resources and your program task list

YOU WILL: Develop a competency sheet or student learning guide (SLG) for at least 1 task

HOW WELL: To master this task, you must score 91% on a product checklist and score 18 out of 20 points or 90% on a knowledge test.

2. MICRO-PERFORMANCE OBJECTIVE(S)

1. Identify three types of learning guides
2. Develop a competency sheet
3. Develop an ETE style SLG
4. Develop a CIVEC style SLG
5. Write an information sheet
6. Write an activity sheet
7. Develop a competency sheet or SLG

PROCEDURES FOR COMPLETING THIS MANUAL

1. Review CBVE curriculum development model, page 5
2. Read the learning steps and resources for each micro-performance objective
3. Complete the activity sheets for each micro-performance objective
4. Complete the written exam
5. Complete the performance test and review with your school's CBVE resource person

NOTE: The pages in this manual are color coded. The blue pages are the objectives and micro-performance objective pages; white = information pages; yellow = activity pages; green = answer key pages; salmon = checklist pages; and pink = criterion exam pages.

MICRO - PERFORMANCE OBJECTIVE #1

Identify Three Types of Learning Guides

LEARNING STEPS

1. Read Resource #1 to identify the components of effective learning packages.
2. Complete Resource #2 to assess your understanding of the components of a learning package.
3. Read Resource #3 to identify the three types of learning packages.
4. Complete Resource #4 for a review of the three types of learning packages.
5. Go on to MPO #2.

RESOURCES

1. Information Sheet 005-001-001, "Identify the Components of Learning Packages," in this guide, pages 9-11.
2. Activity Sheet 005-001-002, "Components of Learning Packages," in this guide, pages 12-14.
3. Information Sheet 005-001-003, "Three Types of Learning Packages," in this guide pages 15-17.
4. Activity Sheet 005-001-004, "Three Types of Learning Packages," in this guide, page 18.
5. MPO #2, page 19 in this guide.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	001

INFORMATION SHEET

005-001-001

Identify the Components of Learning Packages

Learning packages have been in use for a number of years in programs around the country. Most of these packages have the same components but simply arrange them in different ways. The following is a list of the major components of a quality learning package.

1. A Task Statement describing to the student exactly what the package covers.
2. A Performance Objective - at the start of the package describing the task to be learned, the conditions of performance, and the standards to be met.
3. An introduction, explanation or purpose statement telling the student why the task is important and motivating the student to want to learn the task.
4. Enabling Objectives or Micro-Performance Objectives which divide the task into major parts to allow for teaching background knowledge and skills first, provide for a review of prerequisite skills and allow for teaching the task in manageable parts rather than all at once.
5. Clear and detailed learning steps which explain to the student what to do, why to do it, when to do it, what learning resources to use, and the location of the resources.
6. Carefully selected or developed learning resources which present quality up-to-date information.
7. Carefully selected or designed activities for use by the student, to practice, apply or respond to what was presented and for use by the instructor provide immediate feedback on performance.
8. Written and Performance Criterion Referenced Measures designed to evaluate the student's mastery of the task.

In the past years, key events in the learning process have been well researched. Most educators would agree that a successful learning experience will include several essential events.

The following chart lists the essential events in a successful learning activity and shows how it relates to each component of a learning package.

How a Learning Package Relates to Essential Events in the Learning Process

A successful learning experience:	Learning package components:
1. Informs the student exactly what is to be learned and the mastery levels required.	1. Task statement and performance objective
2. Provides the student motivation to learn	2. Introduction or purpose statement
3. Guides the student through a structured learning process	3. Micro-performance objectives and learning steps
4. Appropriate instruction is presented in small enough units to facilitate learning.	4. Information sheets and other resources (Textbooks, A/V, etc.)
5. Appropriate application, practice and recall activities are used to provide immediate feedback and facilitate efficient learning.	5. Activity sheets, procedure sheets and other resources (Workbooks, etc.)
6. Mastery of each task is evaluated.	6. Written tests and performance evaluation instruments.

In addition to the prior mentioned components, learning packages should have the following characteristics:

- Easy to use and store
- Visually attractive
- Involve the instructor at critical points in the learning process
- Take advantage of a variety of up-to-date quality learning materials already developed or commercially available
- Present materials in a variety of ways to reach all types of learners
- Be numbered for easy identification by students, instructors, or anyone else involved in developing, using, or storing the package.
- Begin with an activity as much as possible and not with a reading assignment

ACTIVITY SHEET

005-001-002

Components of Learning Packages

Directions: Please complete the following without using any references. Then check your answers with the answer key which follows this sheet.

A. List and define the eight major components of a learning package.

1.

2.

3.

4.

5.

6.

7.

8.

B. Below is a list of key events in a successful learning experience and the components of a learning package. For each event, identify the component(s) of the package which correspond to it.

____ 1.	Informs the student of what is to be learned and how well	1. Activity sheets 2. Performance objective
____ 2.	Provides motivation	3. Information sheets
____ 3.	Guides the student through a structured learning process	4. Introduction or purpose statement 5. Learning steps
____ 4.	Presents information	6. Micro-performance objectives
____ 5.	Application, practice, and recall activities used to provide feedback.	7. Performance evaluation 8. Task statement
____ 6.	Evaluates mastery of each task	9. Written tests

ACTIVITY SHEET

005-001-002 (Continued)

C. List and describe six characteristics of a quality learning package.

1.

2.

3.

4.

5.

6.

ANSWER KEY

For Activity Sheet 005-001-002

A. Refer back to Information Sheet 005-001-001 to check your answers.

B. 1. 8 & 2

2. 4

3. 5 & 6

4. 3

5. 1

6. 7 & 9

C. Refer back to Information Sheet 005-001-001 to check your answers.

INFORMATION SHEET

005-001-003

Three Types of Learning Packages

There are three major types of learning packages in use today. They are the student competency sheet, the student learning guide, and the self-contained module. There are also several variations of each type of learning package.

The student competency sheet is a single sheet with a list of directions to the student for accomplishing a task. The advantage to this type of package is that it takes very little time, energy, and funds to write, reproduce, and implement. The disadvantages are that the sheet is often no better than, or not as good as, a lesson plan. It relies totally on textbooks and the quality control features of feedback and evaluation are often overlooked.

The student learning guide carefuly guides the student through a series of detailed learning steps. The guide can make the best use of both instructor developed and commercially available materials and media. It also includes hands-on practice with self-checks and frequent instructor feedback. Evaluations for mastery of the task are also included. The advantage to this type of package is that it is a balance between the competency sheet and the totally self-contained module. It is cost effective to develop, reproduce, and implement this type of package. This is the most common type of package found in schools today and has been shown to be highly effective.

The self-contained module is a complete learning package which includes all learning resources within the package. This type of package is very costly to develop, it takes a highly trained developer with a large support staff, and a lot of time to produce. This type of package is often found in use in business and industry and in foreign countries.

The following table shows the three major types of learning package designs and lists the advantages and disadvantages of each.

TABLE 1

ADVANTAGES AND DISADVANTAGES OF THE THREE TYPES OF PACKAGE DESIGN

TYPE	ADVANTAGES	DISADVANTAGES
Student Competency Sheet	1. Requires little training to develop 2. Can be written in a short amount of time 3. Inexpensive to reproduce 4. Easy to store 5. Easily revised, "throw away program"	1. Not very detailed, usually "bare bones" 2. Relatively unsophisticated system with little feedback to facilitate learning 3. Relies mostly on commercially developed materials which even when new are 2-3 years out of date
Student Learning Guide	1. Requires minimal training to develop 2. Takes advantage of all good materials already developed including textbooks and media, does not "reinvent the wheel" 3. Easy for students to follow 4. Easy for instructors to use 5. Learning is facilitated by use of frequent check points and feedback 6. Mastery is documented by the use of criterion referenced tests and checklists 7. Time and money to develop are not prohibitive 8. State-of-the-art tools, equipment, and techniques are easily incorporated 9. A variety of teaching techniques are used, i.e., group discussion, field trips, reading, media, etc. 10. Easy to revise and update 11. Can be generic in reference to tools and equipment 12. Many are already developed which can be easily adapted	1. Some formal training required to develop quality materials 2. Not all resources are included in the guide, so some type of a learning resource center is necessary 3. Transportability is limited 4. Clerical costs to reproduce are high at the start, but once the program is in place, costs drop
Self-Contained Module	1. Easily transportable 2. Easy to use as it is entirely self-contained 3. Usually system specific for tools and equipment 4. Can incorporate state-of-the-art tools and equipment	1. Requires a highly trained developer 2. Expensive to develop and reproduce 3. "Reinvents the wheel" by not making use of already developed materials 4. Relies almost totally on reading 5. Often inflexible on tools and equipment used 6. Difficult and expensive to revise

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INFORMATION SHEET

005-001-003 (Continued)

As you can see, there are a wide range of factors influencing the use of each type of package. You will have to assess your own situation to determine which type of package is best for you to use.

In the next MPOs we will look at the student competency sheet and two types of student learning guides which are being used in Illinois.

ACTIVITY SHEET

005-001-004

Three Types of Learning Packages

Directions: Complete the following without using any references. Check your work with Information Sheet 005-001-003.

A. List and describe the three major types of learning packages.

1.

2.

3.

B. Evaluate your individual school needs and resources and select the type of learning packet which best meets your needs. Go on to MPO #2 to continue this manual.

MICRO - PERFORMANCE OBJECTIVE #2

Develop a Competency Sheet

LEARNING STEPS

1. Read Resource #1 to identify the format for the student competency sheet.
2. Complete Resource #2 to develop a student competency sheet.
3. Use Resource #3 for a self-check on your competency sheet.
4. Go on to next MPO.

RESOURCES

1. Information Sheet 005-002-001, "Student Competency Guide-Development Guidelines," in this guide, pages 20-25.
2. Activity Sheet 005-002-002, "Develop a Student Competency Sheet," in this guide, pages 26-27.
3. Product Checklist Task 005A in this guide page 28.
4. MPO # 3 in this guide, page 29.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	002

INFORMATION SHEET

005-002-001

Student Competency Guide - Development Guidelines *

Instructor: Write in your name as developer of the SCG on this line.

Date: Write the date you began development of this SCG on this line.

CIP #: Write the Classification of Instructional Program Number assigned to your program on this line (see your Vocational Plan).

Program: Write your program name on this line (see Task List).

Duty: Write the duty that this task pertains to on this line (see Task List).

Task #: Write the task number for this task on this line (see Task List).

Task: Write the task description for this task on this line (see Task List).

Student Performance Objective:

- Condition: Write the conditions under which you want the student to perform the task
- (Given:)

Examples:

Equipment, supplies, or materials which the student is given to work with, i.e.

- Having available all equipment within the lab...
- Provided access to all references and materials...
- Given a standard set of tools...

Materials to which the student is denied access, i.e.

- Without the aid of references...
- Using only those materials provided...
- Having available only that equipment which has been set up...

Environment in which the performance must be demonstrated, i.e.

- In an actual school situation...
- In a simulated classroom or laboratory situation...
- While in the hospital or nursing home...
- Using the fully-functioning laboratory...

* Adapted from Capital Area Vocational Center, Springfield, Illinois.

Information that the student may be provided that will direct the action in a certain direction, i.e.

- Provided two lists - one of terms and another of definitions...
- Using a case study provided by the instructor...
- Given a written situation involving the behavioral patterns of a five-year-old...

- Outcome: Write what you want the student to do, restate the task from the task list.

  (You Will:)

- Criteria: Write how well the student must score on a written test and/or performance/product checklist.

  (How Well:)

Examples:

- To master this task, you must score X % on a performance/product checklist.
- To master this task, you must score Y % on a written criterion exam.
- To master this task, you must score X % on a performance/product checklist and Y % on a written criterion exam
- If a time limit is needed... and perform the task in no more than Z hrs./min.

Total Student Performance Objective Example:

GIVEN:	a high speed square tool bit, pedestal grinder, and the necessary hand tools
YOU WILL:	grind a lathe turning tool
HOW WELL:	To master this task you must score 80% on a written criterion exam and 80% on a performance/product checklist and perform the task in no more than 15 minutes.

Learning Activities:

- are an orderly sequence of activities.
- contain direction and purpose.
- tell the student "what to do" and "why."
- begin with a hard action verb.
- contain a description of the references the students are to use, i.e., texts, information/activity sheets, A/V, etc.
- tell the student where the resource is located, i.e., in the LRC, lab, files, etc.

Texts or Written References:

Identify title (underline)
Identify author (only the first time used in the task)
Identify the pages to read and/or complete
Identify the purpose of the assignment
Identify where it is located

Example: Read Electricity for Electricians by Harper, pp. 70-75 located in the LRC to learn about series circuits.

Information and/or Activity Sheets:

Identify the type of sheet: Information or Activity
Identify the sheet number by task #-sequence
Identify the title of the sheet (put in quotes)
Identify the purpose of the sheet
Identify where it is located

Example: Read Information Sheet #402-01, "Series Circuits," located in files, for an explanation of how these circuits function.

or

Complete Activity Sheet #402-2, "Series Circuit Problems," located in files, to check your understanding of how these circuits operate.

Audio/Visual Materials:

Identify the type of A/V, i.e., filmstrip, slides, video, etc.
Identify the A/V number by task #-sequence
Identify the title of the A/V (put in quotes)
Identify the purpose of the A/V
Identify where it is located

Example: View videotape #401-03, "Series and Parallel Circuits," located in LRC, to compare the differences between these two types of circuits.

- Direct the student to contact the instructor or appropriate person if the student is having problems.

  Example: Contact your instructor or lab supervisor if you are having any problems or have any questions.

- Direct the student to practice development of the skill.

  Example: Practice grinding a lathe turning tool in the lab to gain skill in performing this task. See your instructor for necessary materials.

- The last Learning Activity should direct the student to the evaluation. The evaluation is usually a written test and/or a performance/product checklist.

  Example: Written Test

  When you are ready to (restate task) without assistance, contact your instructor to complete the written test on (task) .

  Example: Checklist

  When you are ready to (restate task) without assistance, contact your instructor to complete the (Performance, Product, or Performance/Product) Checklist (task #) . (Select whichever fits the task.)

Evaluation:

- Continue numbering in a numeric sequence from the Learning Activities section.
- Restate the "criteria" part of the Student Performance Objective.

  Example: To master this task, you must score 80% on the written exam and 80% on the product checklist.

- The last step should direct the student to the next task.

  Example: Proceed to (task #) after successfully completing your evaluation

  or

  Proceed to your next task after successfully completing your evaluation.

Numbering:

- Each resource (Information Sheet, Activity Sheet, A/V, etc.) is identified with a five digit identification number, i.e., # 535-01.
- The first three numbers identify the task that the resource belongs with.
- The last two numbers sequence the resource within the Learning Activities.
- Each resource will have a different sequence number.
- Each resource will have the five digit I.D. number label on it corresponding to the number as identified in the learning step.
- Once a resource has been identified with a number, it always retains that number, even if the resource is used in another task and/or program.

INFORMATION SHEET

005-002-001 (Continued)

SAMPLE Student Competency Guide

Program: Machine Trades CIP No. 48.0503

Duty: Performing Off Hand Grinding

Task No.: 535

Task Title: Grind a Lathe Turning Tool

Student Performance Objective:

GIVEN: a high speed square tool bit, pedestal grinder, and the necessary hand tools

YOU WILL: grind a lathe turning tool.

HOW WELL: To master this task, you must score 80% on a written criterion exam and 80% on performance/product checklist.

Learning Activities:

1. Read Information Sheet #533-01, "Lathe Tool Materials," located in the machine trades file cabinet, to identify cutting tool materials.
2. Read Machine Tool Technology by Repp and McCarthy, pages 206-207 and Machinery's Handbook pages 1745-1750 located in the LRC for information on lathe cutting tools.
3. Complete Activity Sheet #535-02, "Lathe Tool Geometry," located in machine trades file cabinet, for a self-check on lathe cutting tools.
4. Read Machine Tool Technology, pages 213-218, located in the LRC, to identify the procedures for grinding a lathe turning tool.
5. View Videotape #535-03, "Grinding a Lathe Turning Tool," located in the LRC for a demonstration on proper grinding procedures.
6. Complete Activity Sheet #535-04, "Lathe Tool Grinding Quiz," located in machine trades file cabinet, to check your understanding of grinding a lathe turning tool.
7. Practice grinding a lathe turning tool in the laboratory to gain skill in performing this task. See your instructor for necessary materials.
8. Contact your instructor if you have any questions.
9. When you are ready to grind a lathe turning tool without assistance, contact your instructor to complete Written Exam #535.

10. When you are ready to grind a lathe turning tool without assistance or resources, contact your instructor to complete Performance/Product Checklist #535.

Evaluation:

11. To master this task you must score 80% on a written exam and 80% on a performance/ product checklist.

12. Proceed to your next task after successfully completing your evaluation.

ACTIVITY SHEET

005-002-002

Develop a Student Competency Sheet

Using a task from your task list and the following blank competency sheet, complete the form. You will be evaluated using Product Checklist Task #005A on page 28 of this manual.

After you complete the competency sheet, proceed to MPO #3 to complete your work.

ACTIVITY SHEET

005-002-002 (Continued)

Student Competency Sheet

School Name

CIP #_____

Program:_____

Duty:_____

Task No.:_____

Task:_____

Student Performance Objective:

GIVEN: _____

YOU WILL: _____

HOW WELL: _____

Learning Activities:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

Evaluation:

8. _____

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	002

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	PRODUCT CHECKLIST Task 005A Complete a Student Competency Sheet		
	A. Program Information Included:		
	1. CIP #	1	
*	2. Program Title	1	
	3. Duty	1	
*	4. Task #	1	
*	5. Task Title	1	
	B. Student Performance Objective Included:		
*	6. Conditions of performance not conditions of learning (given)	1	
*	7. Description of performance (you will)	1	
*	8. Level of acceptability including time restrictions, type of evaluation (test or checklist) and score required (how well)	1	
	C. Learning Activities:		
*	9. Begin with a hard action verb	1	
*	10. Are an orderly sequence of activities	1	
*	11. Contain direction and purpose (what to do and why)	1	
*	12. Contain a description of references needed	1	
*	13. Describe the location of references needed	1	
*	14. Indicate the resource number	1	
*	15. Provide for reasonable blocks of information to be taught at one time	1	
*	16. Provide sufficient practice exercises before evaluation	1	
*	17. Present cognitive information prior to practice	1	
*	18. Involve the instructor to provide frequent feedback	1	
*	19. Provide a variety of types of resources (information sheets, textbooks, A/V, etc.)	1	
*	20. Direct the student to the evaluation as the last step	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 18
TOTAL POINTS POSSIBLE = 20

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	002

MICRO - PERFORMANCE OBJECTIVE #3

Develop an ETE Style Student Learning Guide

LEARNING STEPS

1. Read Resource #1 to identify the format for the ETE sytle SLG.
2. Complete Resource #2 to develop an ETE style SLG.
3. Use Resource #3 for evaluation of your ETE style SLG.
4. Go on to MPO #4.

RESOURCES

1. Information Sheet 005-003-001, "ETE Style SLG," in this guide, pages 30-34.
2. Activity Sheet 005-003-002, "Develop an ETE Style SLG," in this guide, pages 35-37.
3. Product Checklist Task 005B, in this guide, page 38.
4. MPO #4 in this guide, page 39.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	003

INFORMATION SHEET

005-003-001

ETE Style SLG

The Education for Technology Employment (ETE) Project has developed SLGs in the areas of Computer Aided Drafting (CAD), Information Specialist, and Electronics. If your program or school is using these materials, you may want to develop your materials in this style. Some schools in Illinois using this type of SLG are: Pekin Area Vocational Center, Chicago Vocational High School, Quincy Area Vocational Technical Institute, Lamont High School, Joliet High School, and Kelly High School in Chicago.

The ETE SLG consists of a cover page, learning steps page(s), information sheets, activity sheets, and evaluation instruments.

The following pages will show you how to develop the cover page and learning step page(s). Information sheets and activity sheets are covered in MPOs #5 and #6. Evaluation instruments are covered in PTTM #4, "Construct Performance and Written Evaluation Instruments."

COMPUTER-AIDED DRAFTING

(DESIGN & PLACE YOUR SCHOOL LOGO HERE)

TASK

Type In:

- Program name if not identified at left
- CIP Code #
- Duty area
- Task title and #

Education for Technology Employment:

PURPOSE: (The purpose statement should accomplish two things:
1. It should motivate the student by describing the reason why he/she must learn this task.
2. It should relate this task to the rest of the curriculum for the program.

The purpose is usually 30 words or approximately 3 sentences in length.)

OBJECTIVE: (The objective tells the student three important things about the task:
1. The conditions of performance not conditions of learning (Given)
2. The task itself-usually a repeat of the task title (you will)
3. The standards of acceptability including time restrictions, acceptable score, and type of evaluation instruments (test, checklist) used (How Well)

Review PTTM #3 for more information on objectives)

Estimated Classroom Time:

This is the amount of time it should take the average student to complete this SLG.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	003

CAD

COMPUTER-AIDED DRAFTING

TASK B 8

USE DIGITIZING TECHNIQUES TO COPY EXISTING DRAWINGS

Education for Technology Employment:

PURPOSE: Digitizing converts lines, symbols, sketches, drawings, and text into a language a computer can understand. It is necessary for a student to be able to use various digitizing devices as a means of efficiently and accurately entering data into a CAD system.

OBJECTIVE: Given a cad system with an appropriate digitizing device you will USE DIGITIZING TECHNIQUES TO COPY EXISTING DRAWINGS. To master this task you must score 7 out of 8 or 87% on a written exam and 19 out of 19 or 100% on a product/performance checklist.

Estimated Classroom Time: ⟷

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	003

CAD
COMPUTER-AIDED DRAFTING

LEARNING STEPS

READ:

COMPLETE:

READ:
VIEW:
COMPLETE:

COMPLETE:

COMPLETE:

(Learning steps are an orderly sequence of learning activities. They tell the student "what to do" and "why." They always start with a hard action verb. They always list a resource and the location of the resource, i.e.: Read Information Sheet #1 in this SLG or view Video Tape #1 in the LRC. There should be a variety of learning steps to include reading, viewing, and completing type activities. Each resource should be numbered. Each duty area in CAD has a letter designation and each task a number designation. Within each task, the resources are then numbered sequentially, i.e.: Information Sheet #1 in Task B8 then becomes B8.1. The last learning step routes the student to perform the task for mastery.)

Resources:

(Textbooks, workbooks, and A/V materials are listed in this section. If only one text is used you may list it in the learning step and omit this section.)

Equipment:

(Large items of equipment or specialized items are listed here. It is not necessary to list common items, i.e.: hand tools, paper, pen, drill, bits, etc.)

CAD
COMPUTER-AIDED DRAFTING

LEARNING STEPS
B 8

READ:	Information Sheet B.8.1, "Digitizing Techniques."
READ:	Information on digitizing in one or more of the resources below.
COMPLETE:	Activity Sheet B 8.2, "Digitizing Techniques," in this guide.
READ:	Operators manual on digitizing; see your instructor.
VIEW:	Video tape "Digitizing," B 8 in LRC.
COMPLETE:	Activity Sheet B 8.3, "Digitizing," in this guide.
COMPLETE:	Performance Checklist, B 8, Digitizing Techniques to demonstrate mastery of this task; see your instructor.
COMPLETE:	Written Exam B 8, Digitizing Techniques; see your instructor.

Resources:

1. Title , edition, author, publisher, date.

Equipment Needed:

1. CAD system
2. Digitizer pad

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	003

ACTIVITY SHEET

005-003-002

Develop an ETE Style SLG

Using a task from your task list and the following cover and learning step pages, you are to develop an ETE style SLG. You will be evaluated using Product Checklist Task 005B on page 38 of this manual.

After you develop your SLG, you will have to write the information sheets, activity sheets, and evaluation instruments. Go on to MPOs # 4, 5, 6, and 7 to complete your work.

ACTIVITY SHEET

005-003-002 (Continued)

CAD

COMPUTER-AIDED DRAFTING

TASK

Education for Technology Employment:

PURPOSE:

OBJECTIVE:

Estimated Classroom Time:

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	003

ACTIVITY SHEET

005-003-002 (Continued)

CAD
COMPUTER-AIDED DRAFTING

LEARNING STEPS

Resources

Equipment Needed

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	003

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	Checklist 005B		
	Develop an ETE Style SLG		
	A. Cover page		
	1. Is the program or school logo on the cover?	1	
*	2. Is the program name on the cover?	1	
*	3. Is the task an exact repeat from the task list?	1	
*	4. Is the task number on the cover?	1	
	5. Is the CIP Code # on the cover?	1	
	6. Is the duty area on the cover?	1	
*	7. Does the purpose statement:		
	a. Motivate the student by providing a reason for learning the task?	1	
	b. Relate this task to the rest of the curriculum on the job?	1	
*	8. Does the objective:		
	a. Describe the conditions of evaluation not conditions of learning? (Given)	1	
	b. Describe the performance? (You Will)	1	
	c. Describe the level of acceptability including time restrictions, type of evaluation (test or checklist) and score required for mastery? (How Well)	1	
*	9. Is the estimated time filled in?	1	
	B. Learning steps page		
*	10. Do all learning steps begin with a hard verb?	1	
*	11. Are the learning steps an orderly sequence of activities?	1	
*	12. Do all the learning steps contain direction and purpose? (What to do and why)	1	
*	13. Do all the learning steps contain a description of references (resources) needed?	1	
*	14. Do all the learning steps contain a description of the location of resources needed?	1	
*	15. Is every resource numbered?	1	
	16. Does each learning step provide for a reasonable block of information to be taught at one time?	1	
*	17. Are sufficient practice exercises provided before evaluation for mastery?	1	
	18. Is cognitive info. mation presented prior to practice?	1	
*	19. Is the instructor involved frequently to provide feedback?	1	
*	20. Does the last learning step direct the student to perform for evaluation?	1	
*	21. Are a variety of types of resources used?	1	
	22. Are all resources listed in the appropriate place?	1	
	23. Is a list of equipment needed for the task supplied?	1	
	Total Points Earned =		

POINTS NEEDED FOR MASTERY = 23
TOTAL POINTS POSSIBLE = 26

MICRO - PERFORMANCE OBJECTIVE #4

Develop a CIVEC Style SLG

LEARNING STEPS

1. Read Resource #1 for information on how to write a CIVEC style SLG.
2. Complete Resource #2 to develop a CIVEC style SLG.
3. Use Resource #3 to evaluate your work.
4. Go on to MPO #5.

RESOURCES

1. Information Sheet 005-004-001, "CIVEC Style SLG," in this guide, pages 40-60.
2. Activity Sheet 005-004-002, "Develop a CIVEC style SLG,' in this guide, pages 61-72.
3. Product Checklist 005C in this guide, pages 73-75.
4. MPO #5 in this guide, page 76.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

INFORMATION SHEET

005-004-001

CIVEC Style SLG

The Competency-Based Individualized Vocational Education Consortium (CIVEC) has, in the past, developed SLGs in all occupational areas. These materials are in use in many high schools, area vocational centers, community colleges, and universities. If your school is using these materials, you will probably want to develop your materials in this format. The format was first developed by School District 916 AVTI in White Bear Lake, Minnesota. It has since been adopted by a large number of schools around the U.S. and Canada. Some schools in Illinois using this format are: Stephenson Area Career Center, Lake County Area Vocational Center, Jo Daviess-Carroll Area Vocational Center, Batavia Senior High School, Western Illinois University, Southern Illinois University, Decatur Area Vocational Center, Capital Area Vocational Center, Vermilion Occupational Technical Education Center, and many others.

This style consists of a cover page, learning contract page, micro-performance objective pages, information sheets, activity sheets, and evaluation instruments.

The following pages will show you how to write in this style. Information sheets and activity sheets are covered in MPOs #5 and #6. Evaluation instruments are covered in PTTM #4, "Construct Performance and Written Evaluation Instruments." Writing objectives is covered in PTTM #3, "Write Measurable Performance Objectives."

INFORMATION SHEET

005-004-001

Quite logically, you should begin designing your learning guide with the cover. The cover of each guide contains the following:

1. A program logo - a visual cue that identifies the program in which the learning guide is used.
2. The school logo - to identify the learning guide as being part of the curriculum of your school.
3. Production credit - to give credit to the original author of the learning guide.
4. Task - the specific task which the learning guide is designed to teach.
5. Purpose - a statement designed to motivate the student and to relate this task to the rest of the program tasks.
6. Program name - to tell the reader which program this learning guide belongs to.
7. Guide number - to identify the sequence in which this learning guide appears in the program.
8. Date - to identify the date when the guide was written or revised.

The next page contains a copy of a sample learning guide cover. Please look it over carefully. (The numbers on each part correspond to the numbered parts above.)

When you know the function of all these cover parts, go on.

INFORMATION SHEET

005-004-001 (Continued)

1

COMPETENCY—BASED INDIVIDUALIZED VOCATIONAL EDUCATIONAL CONSORTIUM

2

CIVEC
301 N. Swift Road
Addison, Illinois 60101
312/620-8770

Produced By
3 (Enter your name, school, school address and town)

A LEARNING GUIDE

4 **Task** (Usually one line. Describe the goods, products, or service performed. Should begin with an action verb.)

5 **Purpose** (Usually 30 words or three sentences in length. Provides a reason to learn the task. The purpose should:

1. Motivate student by describing reason(s) task should be mastered.
2. Relate the task to the rest of the curriculum. It can include frequency and importance of the task.

(For CIVEC, the cover will always be green)

6 (Type Program Name in Caps Here)

7

Program	Task	Est. Time	Prereq.
CIP No.	#	Enter time	Enter Prereq.

8 Type date here

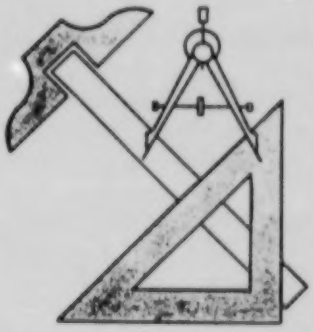
DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

BEST COPY AVAILABLE

Sample Cover Page

INFORMATION SHEET

005-004-001 (Continued)



CAPITAL AREA VOCATIONAL CENTER
2201 TORONTO ROAD PO BOX 3427
SPRINGFIELD, ILLINOIS 62708 (217)529-5431

A LEARNING GUIDE

TASK PRODUCE FLOOR PLANS FOR A RESIDENCE

PURPOSE The single most important drawing of a set of architectural drawings is the floor plan. Learning to draw floor plans properly, therefore, is of utmost concern and importance to you. All other drawings are derived from the floor plan.

DRAFTING

Program	Task	Prereq.
17.1300	410	400

3/82

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

BEST COPY AVAILABLE

INFORMATION SHEET

005-004-001 (Continued)

Once your learning guide cover is complete, you should write your learning objectives page. Locate the blank objectives page, on page 71 in this guide. Find the following parts as we refer to them below. Note that in the past we used what was called a contract page. This has been replaced by the objectives page. The objectives page has the following three parts: (1) Terminal performance objective, (2) Micro-performance objectives, and (3) Procedures for completing this manual.

As you can see, the old contract page has the following four parts:

1. Student data
2. Terminal performance objective

2a. Micro-performance objective(s)

3. Agreement

The following discussion will focus on the new objectives page, and the packet numbers at the bottom of the page.

Part I - Terminal Performance Objective

The terminal performance objective or TPO, as we call it, tells the student three important things about the task:

A. The conditions of performance (what the student will have available to use when doing the task for evaluation.) The "conditions" section tells what the learner will be provided with to do the task and under what circumstances he/she must perform.

In our sample guide, the conditions are:

GIVEN: Prepared carbon based artwork and infrared transparency machine, blank overhead transparencies, and various other tools, equipment, and materials

B. The task itself (the actual performance the student must demonstrate.) In our guide, the task is:

YOU WILL: Construct and assemble a two overlay overhead transparency

C. The standards of performance (how well the student must do the task.) Be sure to mention if the student must perform within a certain amount of time.

HOW WELL: To master this task, you must complete a written criterion exam with 6 out of 8 or 75% correct and perform the task in one hour with 8 out of 10 or 80% correct as listed on a product checklist.

In short, the TPO tells the student exactly what he/she must do to perform this task successfully. Putting these three parts of the TPO together, we have from our sample guide:

GIVEN: prepared carbon based artwork, infrared transparency machine, blank overhead transparencies, and various other tools, equipment, and materials

YOU WILL: construct and assemble a two overlay overhead transparency.

HOW WELL: To master this task, you must complete a written criterion exam with 6 out of 8 or 75% correct and perform the task in one hour with 8 out of 10 or 80% correct as listed on a product checklist.

PART 2 - MICRO-PERFORMANCE OBJECTIVE(S)

Once the TPO is written and you know exactly what you expect each student to do upon completion of this learning guide, you must turn your attention to writing the micro-performance objective(s) or MPOs for this task.

The MPOs for any given task are the major steps or blocks of instruction which each student must achieve in order to master the TPO. Terminal Performance Objectives are often too general to be used for the actual writing of the learning materials. To teach a task effectively, it is necessary to break the TPO more specifically into a series of smaller units or subobjectives.

To determine MPOs successfully, it will help if you distinquish between two basic kinds of objectives in a vocational curriculum: "knowing" objectives and "doing" objectives.

INFORMATION SHEET

005-004-001 (Continued)

Knowing objectives or "cognitive" objectives as they are often called describe what the student must "know" in order to accomplish a given task successfully. Basic facts, terminology, names and identifications of tools, physical laws, muscle and bone parts, and kinds of machinery are examples of the knowing elements of a task. These parts of a task outline are what a student must "know" before he or she can "do" a task successfully.

For example: A person cannot successfully balance a checkbook without first knowing how to recognize numbers, add, and subtract.

Many vocational instructors overlook the knowing elements of each job task. Be careful to consider these important parts of your job tasks.

Doing or "psychomotor" objectives describe what the student must "do" to perform a task successfully. A student cannot adjust a carburetor without being able to use a screwdriver successfully. A student cannot cut hair successfully without being able to use a comb and scissors effectively.

Most job tasks contain both "knowing" and "doing" elements.

Let's look now at the list of MPOs that we have included in our sample contract page . . .

1. IDENTIFY TOOLS, EQUIPMENT AND MATERIALS NECESSARY FOR CONSTRUCTING AND ASSEMBLING A TWO OVERLAY OVERHEAD TRANSPARENCY.

2. CONSTRUCT AND ASSEMBLE A BASIC OVERHEAD TRANSPARENCY.

3. CONSTRUCT AND ATTACH TWO OVERLAYS TO A BASIC OVERHEAD TRANSPARENCY.

3. Procedures for completing this guide.
These are a set of directions to the student for completing the guide. Turn to our sample objectives page to see the example. You may vary these procedures depending on your classroom situation, but these are fairly typical.

4. The numbering system.
Your school may already have a numbering system in place. Check with your LRC and vocational director to see if you must number your guides in a certain way. For consistency and clarity, we suggest that you use a numbering system similar to that which we are using in this manual. Contact your ICBVE consultant if you have any questions.

SAMPLE:

Dept.	Prog.	Task	TPO	MPO
400	411	001	001	003

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

INFORMATION SHEET

005-004-001 (Continued)

Depart. stands for the department you are in. Some schools assign these numbers by occupational area, i.e.,: 100 = agriculture, 200 = business, 300 = health, 400 = home economics, and 500 = industrial. Establish one system for your school and stick with it.

Prog. is the number assigned to your program. See your vocational director.

Task stands for the task number from your task list.

TPO stands for the TPO which will always be the same as the task #.

MPO stands for the micro-performance objective that the information falls under. For example, the MPO page, all information sheets and activity sheets in the first MPO will be listed as MPO-001; all those in the second MPO will be MPO-002, and so on.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

INFORMATION SHEET

005-004-001 (Continued)

Sample Objectives Page

OBJECTIVES OF THIS GUIDE

1. TERMINAL PERFORMANCE OBJECTIVE

GIVEN: prepared carbon artwork, infrared transparency machine, blank overhead transparencies, and various other tools, equipment, and materials

YOU WILL: construct and assemble a two overlay overhead transparency

HOW WELL: To master this task, you must complete a written criterion exam with 6 out of 8 or 75% correct and perform the task in 1 hour with 8 out of 10 or 80% correct as listed on a product checklist.

2. MICRO-PERFORMANCE OBJECTIVE(S)

1. Identify tools, equipment, and materials necessary for constructing and assembling a two overlay overhead transparency
2. Construct and assemble a basic overhead transparency
3. Construct and attach two overlays to a basic overhead transparency

PROCEDURES FOR COMPLETING THIS GUIDE

1. Read the objective; contact your instructor.
2. Read the learning steps and resources for each MPO.
3. Complete the activity sheets for each MPO and have your instructor check them.
4. Contact your instructor when you have questions or problems.
5. When you feel ready, contact your instructor for the written exam.
6. When you feel ready to perform this task for mastery, contact your instructor and complete the checklist.

DEPT	PROG	TASK	TPO	MPO
400	411	001	001	000

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

OBJECTIVES OF THIS MANUAL

1. TERMINAL PERFORMANCE OBJECTIVE

(The TPO states: (1) What the student is given to complete the performance, (2) What the performance is, and (3) How the performance will be evaluated. There are three components to a TPO: (a) The task statement which describes the performance the student must demonstrate; (b) conditions of performance, i.e., what tools, equipment, etc., and under what circumstances will the student be evaluated; and (c) criterion - how well the student must do the task, how fast, how many times, etc. The TPO should state how well a student must do on a criterion exam and product/performance checklist to master the task.)

2. MICRO-PERFORMANCE OBJECTIVE(S)

(Major steps or blocks of instruction which each student must achieve in order to master the TPO. The MPOs are a breakdown of the TPO into a series of smaller units or sub-objectives. The MPOs are comparable to chapters in a book. They are logical and teachable subsections of the task. The last MPO should be a repeat of the task.)

PROCEDURES FOR COMPLETING THIS MANUAL

Identifying MPOs

In order to determine your MPOs or sub-objectives, you need to review your task details for each list. PTTM #2, pages 77-83 shows you how to identify task details.

The following task details will be used to show you how MPOs are determined.

TASK DETAIL SHEET *

TASK: Construct and Assemble a Two Overlay Overhead Transparency

DETAILS

1. Identify and locate a Thermo-Fax (infra-red) copy machine.
2. Plug in machine and turn the power on.
3. Set the exposure dial to the brown setting.
4. Identify a set of carbon based masters.
5. Obtain a set of carbon based master diagrams from your instructor and separate out "Diagram #1".
6. Identify and locate one blue sheet of heat sensitive transparency projection film (color image).
7. Load "Diagram #1" into the blue film form.
8. Pull out the protection sheet in the film form.
9. Check to see that sheet No. 2 is wrinkle free.
10. Pass the film form through the copy machine.
11. Remove the film from the machine.
12. Remove exposed film from the form.
13. Identify and locate a cardboard form for the transparency.
14. Locate a quantity of masking tape.
15. Attach the exposed blue transparency to the cardboard using the masking tape.
16. Identify and locate an overhead projector.
17. Check your base transparency by placing it on the overhead.
18. Place "Diagran #2" in a green film form and run it through the machine as before.
19. Tape your exposed green transparency on the front left side of the base transparency.
20. Check your two attached transparencies on the overhead projector.
21. Place "Diagram #3" in a red film form and run it through the machine as before.
22. Tape the exposed red transparency on the front right side of the base transparency.
23. Check your three attached transparencies on the overhead projector.
24. Clean up your work area.

* Taken from: "Designing Self-Paced Curriculum for the Personalized System," Unit 4 of the Teacher Training System, District 916 AVTI, White Bear Lake, Minnesota, 1977, pages 60-64.

INFORMATION SHEET

005-004-001 (Continued)

Once your task details are written, look them over to discover the obvious breaks. Summarize each block or logical break with an objective that describes what the student can do after completing those steps. These summary objectives become your MPOs. Here is how we divided our task details.

TASK DETAILS	MICRO-PERFORMANCE OBJECTIVES
1. Identify and locate a Thermo-Fax (infra-red) copy machine. 4. Identify a set of carbon based masters. 6. Identify and locate one blue sheet of heat sensitive transparency projection film (color image). 13. Identify and locate a cardboard form for the transparency. 14. Locate a quantity of masking tape. 16. Identify and locate an overhead projector.	#1 Identify tools, equipment, and materials necessary for constructing and assembling a two overlay overhead transparency.

TASK DETAILS	MICRO-PERFORMANCE OBJECTIVES
2. Plug in machine and turn the power on. 3. Set the exposure dial to the brown setting. 5. Obtain a set of carbon based master diagrams from your instructor and separate out "Diagram #1". 7. Load "Diagram #1" into the blue film form. 8. Pull out the protection sheet in the film form. 9. Check to see that sheet No. 2 is wrinkle free. 10. Pass the film form through the copy machine. 11. Remove the film from the machine. 12. Remove the exposed film from the form. 15. Attach the exposed blue transparency to the cardboard using masking tape. 17. Check your base transparency by placing it on the overhead.	#2 Construct and assemble a basic overhead transparency.

TASK DETAIL	MICRO-PERFORMANCE OBJECTIVES
18. Place "Diagram #2" in a green film form and run it through the machine as before.	
19. Tape your exposed green transparency on the front left side of the base transparency.	
20. Check your two attached transparencies on the overhead projector.	#3 Construct and attach two overlays to a basic overhead transparency.
21. Place "Diagram #3" in a red film form and run it through the machine as before.	
22. Tape the exposed red transparency on the front right side of the base transparency.	
23. Check your three attached transparencies on the overhead projector.	
24. Clean up your work area.	

Notice: We did not choose to "teach" these task details in the exact order in which the student will actually do them on the job. We separated out the "knowing" elements like identifying the tools, equipment and materials and grouped them for teaching in MPO #1.

Reason: We decided that if the students could identify and locate the basic tools, equipment, and materials first, they would recognize them more easily later when called on to use them in the procedure. The teaching of the procedure could run more smoothly, then, without having to stop and locate these items. This of course, is only one way to break these task details into "teachable" blocks of instruction. There are other effective ways to do this as well.

Note also that we decided it was logical to make the basic overhead first (MPO #2) and then make the next two overheads (MPO #3). This was done for two reasons:

1. This is the order in which the task is logically done.

2. Making and attaching the second two overheads is slightly different than constructing and assembling the first base overhead.

INFORMATION SHEET

005-004-001 (Continued)

Writing the MPO Pages:

Once the task, purpose, TPO, and MPOs are complete, your are ready to design your individual MPO pages. One Micro-performance objective page is completed for each MPO as recorded on the contract page.

Since the learning contract of our sample guide lists the following objectives, our sample guide should have three micro-performance objective pages (one for each MPO).

1. Identify tools, equipment and materials necessary for constructing and assembling a two overlay overhead transparency.
2. Construct and assemble a basic overhead transparency.
3. Construct and attach two overlays to a basic overhead transparency.

The MPO Page:

Purpose: Each MPO page should be designed to direct the student through a series of "learning steps" and "resources" which will result in the student's accomplishment of the objective (MPO) written at the top of the page. Upon completing the learning activities described on this page, the student should be able to "identify tools, equipment, and materials necessary for constructing and assembling a two overlay overhead transparency."

WRITING LEARNING STEPS AND CHOOSING RESOURCES:

Once your MPO is written, you must outline the directions and activities needed to accomplish the MPO. The "learning steps" and "resources" sections of this page do the following:

Learning Steps - These directives tell the student what to do and why.

Resources - These list the information sheets, audio-visual materials, textbooks, laboratory models, and whatever aids the student must use to do the corresponding learning step.

INFORMATION SHEET

005-004-001 (Continued)
Sample MPO Page

MICRO - PERFORMANCE OBJECTIVE (Place the MPO # here)

(List a separate Micro-Performance Objective for each page. Each must be an exact repeat as listed on the learning contract page or objectives page.

LEARNING STEPS

(Learning steps are an orderly sequence of learning activities. They contain directive and purpose. They tell the student "what to do", and "why".)

Always start with a hard verb.

Vary your learning steps to include reading, viewing, completing type activities. Use an activity sheet to be completed after reading and viewing activities.

Example

1. View Resource #1 . . .
2. Read Resource #2 . . .
3. Complete Resource #3 . . .
4. After approval by instructor, go to next MPO.

NOTE:

The last learning step routes the student to the next MPO or the next task.

RESOURCES

(List one or more references for each learning step. Example references are: information sheets, study guides, audio-visual materials, textbooks, activity sheets, study questions and other aids the student must use to complete the learning step. Always tell where the resource is located.)

Example

1. Videotape 027-001-001, "Preparing SLG's," in LRC.
2. Information sheet 027-001-002, "Preparing SLG's," in this guide.
3. Activity sheet 027-001-003 in this guide.
4. MPO #2 in this guide.

NOTE:

For each learning step, there is a resource. The numbers of the learning steps and resources must be the same and across from each other.

All information sheets and other supplementary materials should be coded as follows:

Task # - MPO # - Resource #

Sample: 256-001-003

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

INFORMATION SHEET

005-004-001 (Continued)

Sample MPO Page

MICRO - PERFORMANCE OBJECTIVE #3

CONSTRUCT AND ATTACH TWO OVERLAYS TO A BASIC OVERHEAD TRANSPARENCY

LEARNING STEPS

1. READ RESOURCE #1 TO IDENTIFY THE PROCEDURE FOR CONSTRUCTING AND ATTACHING TWO OVERLAYS TO A BASIC OVERHEAD TRANSPARENCY.
2. REVIEW RESOURCE #2 TO STUDY THE PROCEDURE FOR ACCOMPLISHING THIS TASK.
3. SEE RESOURCE #3 FOR FINAL PRODUCT.
4. WHEN YOU FEEL YOU KNOW HOW TO DO THIS TASK WITHOUT ASSISTANCE, TAKE THE CRITERION EXAM.
5. PRACTICE THIS TASK REVIEWING RESOURCES #5A, #5B, AND #5C.
6. WHEN YOU FEEL YOU CAN DO THIS TASK WITHOUT ASSISTANCE, PERFORM THIS TASK FOR EVALUATION USING RESOURCE #6.

RESOURCES

1. INFORMATION SHEET: 001-003-001 IN THIS S.L.G.
2. INFORMATION SHEET: 001-003-002 IN THIS S.L.G.
3. COMPLETED MODEL FROM INSTRUCTOR.
4. CRITERION EXAM: TASK 001 IN THE LRC TESTING CENTER.
5. A. INFORMATION SHEET: 001-001-001 IN THIS S.L.G.
   B. INFORMATION SHEET: 001-002-001 IN THIS S.L.G.
   C. INFORMATION SHEET: 001-003-001 IN THIS S.L.G.
6. PRODUCT CHECKLIST: TASK 001 IN THIS S.L.G.--CONTACT INSTRUCTOR.

DEPT	PROG	TASK	TPO	MPO
400	411	001	001	003

Look over the example below from our sample guide.

LEARNING STEPS	RESOURCES
1. READ RESOURCE #1 TO IDENTIFY THE TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO DO THIS TASK.	1. INFORMATION SHEET: 001-001-001 IN THIS S.L.G.
2. REVIEW RESOURCE #2 TO GATHER THE TOOLS, EQUIPMENT AND MATERIALS.	2. INFORMATION SHEET: 001-001-002 IN THIS S.L.G.

NOTE: You could also write the above learning steps with the purpose first. For example:

1. Identify the tools, equipment and materials necessary to do this task by reading Resource #1
2. Gather tools, equipment and materials by reviewing Resource #2.

Use whichever method you find more comfortable.

In order to determine learning steps, you should refer to your list of task details for the particular MPO.

Next you do two things:

1. Determine what resources you have available to teach these task details (information sheets, audio-visual presentations, etc.)
2. Group your task details into logical steps.

In our sample guide, we included an "Information Sheet" to teach the task details for MPO #1, and we grouped the details into two steps. So to write your learning steps you would say "read" if the resource was an information sheet or some written material, "view" if your resource was some audio-visual material, "contact" if your resource was the instructor and so on. You must then also tell the student "why" he/she is doing this learning step. Then list the appropriate resource for each learning step in the "resource" column.

Look over our two examples and note carefully:
The directives such as "read", "view"
The purpose for each activity
The resource listed by name or number

INFORMATION SHEET

005-004-001 (Continued)

LEARNING STEPS	RESOURCES
1. READ RESOURCE #1 TO IDENTIFY THE TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO DO THIS TASK.	1. INFORMATION SHEET: 001-001-001 IN THIS S.L.G.
2. REVIEW RESOURCE #2 TO GATHER THE TOOLS, EQUIPMENT AND MATERIALS.	2. INFORMATION SHEET: 001-001-002 IN THIS S.L.G.

Notice: We say "Read Resource #1" and "Review Resource #2" for each learning step.

EACH LEARNING STEP IN AN MPO HAS A DIFFERENT NUMBER AND EACH RESOURCE HAS THE SAME NUMBER AS THE CORRESPONDING LEARNING STEP.

If the same resource (such as Information Sheet 001-001-001) is used for different learning steps, it takes on a different resource number (#1, #2, #3, . . .) each time (the same number as the learning step to which it corresponds.) Once a resource is given a nine digit number like 001-001-001, it keeps that same number any time it is referenced.

Let's look at a more complicated example of learning steps and resources: look over the MPO page for MPO #3 from our sample guide on page 52. Note learning steps 4-6 carefully.

Learning Step 4 tells you how to direct the student to take the criterion exam.

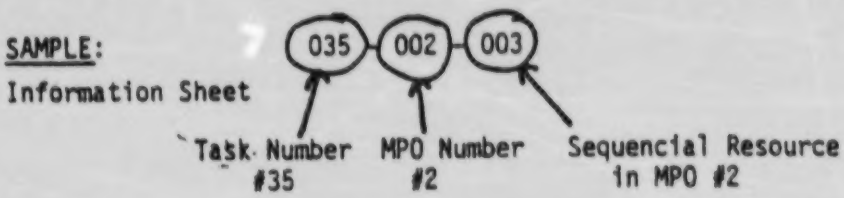
Learning Step 5 tells you how to direct the student to review the package resources and practice the task. NOTICE THAT MORE THAN ONE RESOURCE WITHIN A LEARNING STEP ARE REFERRED TO AS A, B, C, ETC.

Learning Step 6 tells you how to direct the student to do the task for final evaluation using the product checklist included in the guide.

WHAT THE RESOURCE NUMBERS MEAN . . . .

Your individual Learning Resource Center already has a numbering system in effect. Check to see if you must number your resources in a particular way that has already been determined in your department.

For consistency and clarity, we suggest that you use a numbering system for resources like we are using in the sample guide. The parts of our nine digit numbering system indicate the following important information:



This information sheet would be part of the learning guide for Task #35, part of MPO #2 and the third sequential resource in MPO #2. If you had another resource for this MPO it would be numbered: 035-002-004. This sample is simple, precise, and consistent. Use it if you can.

ANOTHER WORD ABOUT THE NUMBERS . . . .

At the bottom of each MPO page, you will find a series of boxes for page identification. One way to do these numbers is shown below:

DEPT	PROG	TASK	TPO	MPO
400	411	001	001	003

The page shown here is for MPO #3. If this MPO sheet was from MPO #1, the last number would be 001.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

ACTIVITY SHEET

005-004-002

Develop a CIVEC Style SLG

Dirctions: Answer the following questions without looking back at the information sheets. Check your answers with the following answer key.

Then using a task from your task list and the blank cover page, contract page, and MPO page, develop a CIVEC style SLG. You will be evaluated using Product Checklist Task 005C pages 73-75 in this guide.

After you develop your SLG, go on to MPOs #5, 6, and 7 to complete your work.

ACTIVITY SHEET

005-004-002

1. Check which of the following items are contained on the CIVEC learning guide cover:

   ____A. Program designation (title)

   ____B. MPO list

   ____C. Task list

   ____D. Task statement

   ____E. Program logo

   ____F. Purpose statement

   ____G. TPO statement

2. Where should you obtain the task statement for the cover of the learning guide?

3. What two things should the purpose statement do as written on the learning guide cover?

4. Which of the following parts of a learning guide are included on the contract page?

   Check the right answers.

   ____A. Agreement

   ____B. Purpose statement

   ____C. Criterion exam

   ____D. TPO

   ____E. List of MPOs

   ____F. Learning steps

   ____G. Product checklist

   ____H. Time limit (if required)

5. In your own words, describe the three parts of a TPO:

   A.

   B.

   C.

ACTIVITY SHEET

005-004-002 (Continued)

6. Try your hand at the following questions about "knowing" and "doing" elements of a task. Place a "K" in front of the tasks below which represent "knowing" skills and a "D" in front of tasks which represent "doing" skills.

____ 1. Wash hands

____ 2. Inject medication

____ 3. Identify drug classifications

____ 4. Define medical terminology

____ 5. Describe sanitation procedures

____ 6. Identify fabrics and material

____ 7. Sell men's shirts

____ 8. Brush hair

____ 9. Repair oil furnace jet

____10. Print on paper with black ink

____11. Describe the theory of flat color reproduction

____12. Explain general reatiling policies

____13. Clean the offset press

____14. Make change

____15. Describe how to make change

7. How many micro-performance objectives (MPOs) are included on each MPO page? _____

8. Each MPO page title must be an _____ _____ from the contract page.

9. These are an orderly sequence of learning activities._____ _____.

10. These tell the student what to do any why. _____ _____

11. What should be completed after reading or viewing activities? _____ _____.

ACTIVITY SHEET

005-004-002 (Continued)

12. Each learning step has one or more _____.

13. The numbers of the learning steps and resources must be the _____ and _____ from each other.

14. If a learning guide has five MPOs, how many MPO pages will it have? _____

15. Where in every learning guide would you be able to find a list of the MPOs for that guide?

16. Explain what each of the following parts of the MPO page should do.

    A. Learning steps -

    B. Resources -

17. In order to determine learning steps for a given MPO, where should you look first? Check the best answer below:

    A. ____Task list

    B. ____Task details

    C. ____Contract page

    D. ____The learning resource center

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

18. Look over the following sample sets of learning steps and corresponding resources. Mark the ones that are correctly written with a "C" in the blank at the beginning of each set and the ones that are incorrectly written with an "I". Explain why each incorrect set is wrong on the blank which follows the set.

LEARNING STEPS	RESOURCES
(A) _____ 1. READ RESOURCE #1 TO IDENTIFY THE PROCEDURE FOR ADJUSTING AN AUTO TRANSMISSION.	1. INFORMATION SHEET 003-002-001, in this SLG.
(B) _____ 2. VIEW RESOURCE #2.	2. SOUND/SLIDE PRESENTATION: 003-002-002, in the LRC.
(C) _____ 3. COMPLETE RESOURCE #4 TO PRACTICE THIS TASK.	4. ACTIVITY SHEET: 003-002-003, in this SLG.
(D) _____ 5. READ RESOURCE #5a AND VIEW RESOURCE #5b TO IDENTIFY THE PROCEDURE FOR COOKING A CHUCK ROAST.	5. a. INFORMATION SHEET 003-002-004. b. VIDEO/TAPE PRESENTATION: 003-002-005.
(E) _____ 6. VIEW VIDEO/TAPE PRESENTATION 003-002-006 TO PRACTICE THIS TASK.	6. VIDEO/TAPE PRESENTATION 003-002-006, in the LRC.

ACTIVITY SHEET

005-004-002 (Continued)

19. What does each series of three numbers of the following activity sheet sequence mean?

    005-004-006

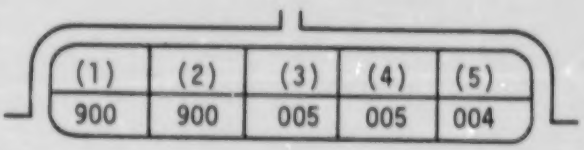
    005 -

    004-

    006-

20. What number would the next Resource have in the MPO referred to in question #1?

21. What do the five series of numbers at the bottom of each MPO page represent?



(1)	(2)	(3)	(4)	(5)
900	900	005	005	004

1.

2.

3.

4.

5.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

ANSWER KEY

For Activity Sheet 005-004-002

. The items listed below are on the learning guide cover.

___A. Program designation (title)

___D. Task statement

___E. Program logo

___F. Purpose statement

. All your task statements should come directly from your job task listing.

. The purpose statement should:

A. Motivate the student by describing the reason why he/she must learn this task.

B. Relate the task to the rest of the curriculum.

. The following parts of the learning guide are on the contract page:

___A. Agreement

___D. TPO

___E. List of MPOs

___H. Time limit (if required)

. The TPO should contain:

A. The conditions of performance - what the student will be provided with to complete the task for evaluation.

B. The task itself - the actual performance the student must demonstrate (from the job task listing).

C. The standards of performance - how well the student must perform the task.

ANSWER KEY

For Activity Sheet 005-004-002 (Continued)

6. You should have put your "K"s and "D"s in front of the objectives in the following manner.

D 1. Wash hands

D 2. Inject medication

K 3. Identify drug classifications

K 4. Define medical terminology

K 5. Describe sanitation procedures

K 6. Identify fabrics and material

D 7. Sell men's shirts

D 8. Brush hair

D 9. Repair oil furnace jet

D 10. Print on paper with black ink

K 11. Describe the theory of flat color reproduction

K 12. Explain general reatiling policies

D 13. Clean the offset press

D 14. Make change

K 15. Describe how to make change

7. One MPO is included on each MPO page.

8. Each MPO page title must be an exact repeat from the contract page.

9. Learning steps are an orderly sequence of learning activities.

10. Learning steps tell the student what to do and why.

11. Activity sheets

12. Each learning step has one or more resources.

13. The numbers of the learning steps and resources must be the same, and across from each other.

ANSWER KEY

For Activity Sheet 005-004-002 (Continued)

14. One MPO page is designed for each MPO in a given learning packet. Thus, the correct answer to this question is five.

15. Each learning guide should have a list of MPOs on the contract page.

16. A. "Learning Steps" - These statements direct the student to what activities should be done and why.

    B. "Resources" - These phrases list the various learning aids used to accomplish each individual learning step.

17. Task Details - This is the best place to start because you have already listed the "steps" necessary to do this task successfully.

18. A. C

    B. 1 There is no statement of the purpose for doing this learning step.

    C. 1 The "resource" number is different from the "learning step" number. They should always be the same.

    D. 1 The location of the resources are not given.

    E. 1 The words "Video/Tape Presentation 003-002-006" should not be included in the "learning steps" portion of this set. Instead, it should be referred to as "Resource #6."

19. 005 - is the task number

    004 - is the MPO number

    006 - is the resource number

20. The next resource would be numbered 005-004-007.

21. 1. is the department number
    2. is the program number
    3. is the task number
    4. is the TPO number
    5. is the MPO number

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

ACTIVITY SHEET

005-004-002

Blank Cover Page

COMPETENCY—BASED INDIVIDUALIZED VOCATIONAL EDUCATIONAL CONSORTIUM

CIVEC
301 N. Swift Road
Addison, Illinois 60101
312/620-8770

Produced By

A LEARNING GUIDE

Task

Purpose

Program	Task	Est. Time	Prereq.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

ACTIVITY SHEET

005-004-002 (Continued)

OBJECTIVES OF THIS MANUAL

1. TERMINAL PERFORMANCE OBJECTIVE

2. MICRO-PERFORMANCE OBJECTIVE(S)

PROCEDURES FOR COMPLETING THIS MANUAL

DEPT.	PROG	TASK	TPO	MPO

ACTIVITY SHEET

005-004-002 (Continued)

MICRO - PERFORMANCE OBJECTIVE

LEARNING STEPS

RESOURCES

DEPT	PROG	TASK	TPO	MPO

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	CHECKLIST 005C		
	CIVEC Style SLG		
	A. Cover page		
	1. Is the task an exact repeat from the task listing?	1	
	2. Does the purpose statement:		
	A. Motivate by describing the reason why the student must learn the task?	1	
	B. Relate this task to the rest of the curriculum or job?	1	
	3. Is the program name on the cover?	1	
	4. Is the program number filled in?	1	
	5. Is the task number filled in?	1	
	6. Is the estimated time filled in? (Note: At this point make an educated guess)	1	
	7. Is the prerequisite task number filled in? (Write N/A if this does not apply)	1	
	8. Is the date filled in?	1	
	9. Is the developer's name and school address on the guide?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 10
TOTAL POINTS POSSIBLE = 10

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	CHECKLIST 005C (Cont'd.)		
	CIVEC Style SLG		
	B. Contract Page (or objectives page)		
*	1. Does the TPO identify conditions of performance and not conditions of learning?	1	
*	2. Does the TPO describe measurable performance?	1	
	3. Does the TPO state:		
*	Level of acceptability?	1	
	Time restrictions if applicable?	1	
	Industrial standards if applicable?	1	
*	Type of evaluation instruments used?	1	
	4. Does each MPO describe a specific measurable performance?	1	
	5. Does each MPO begin with an action verb?	1	
	6. Do basic MPOs precede complex ones?	1	
	7. Do prerequisite skills precede advanced ones?	1	
	8. Does successful completion of all MPOs indicate mastery level for the TPO?	1	
	9. Are there a minimum of two MPOs?	1	
	10. Are there no more than 10 MPOs?	1	
	11. Is each MPO a logical subsection of the task?	1	
	12. Is each MPO a teachable subsection of the task?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 15
TOTAL POINTS POSSIBLE = 15

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	CHECKLIST 005C (Cont'd.)		
	CIVEC Style SLG		
	C. MPO Pages		
	1. Does each MPO describe a specific measurable performance?	1	
	2. Does each MPO begin with an action verb?	1	
	3. Do basic MPOs precede complex ones?	1	
	4. Do prerequisite skills precede advanced ones?	1	
	5. Does successful completion of all MPOs lead to mastery of the TPO?	1	
	6. Are there a minimum of two MPOs?	1	
	7. Are there no more than 10 MPOs?	1	
	8. Is each MPO a logical subsection of the task?	1	
	9. Is each MPO a teachable subsection of the task?	1	
	10. Is the MPO an exact repeat of the corresponding MPO on the learning contract?	1	
	11. Does each learning step contain a directive (ex.: read, view, complete) and the purpose of the learning step?	1	
	12. Do learning steps indicate resource number(s)? (ex.: Resource #1 or Resource #1a and #1b)	1	
	13. Do basic learning steps precede complex steps?	1	
	14. Do prerequisite learning steps precede advanced steps?	1	
	15. Does successful completion of learning steps indicate achievement of MPO?	1	
	16. Are there sufficient practice exercises within each MPO to help them perform the behavior specified in the objective?	1	
	17. Are learning steps divided in such a way to provide for reasonable blocks of information to be taught at one time?	1	
	18. Does the learning strategy for teaching each MPO appear to be reasonable and appropriate? (ex.: Are behaviors sufficiently presented, practiced, and reinforced?)	1	
	19. Is the numbering system for the learning package consistent within the package?	1	
	20. Is there a resource for each learning step?	1	
	21. Does each resource name the specific resources(s) needed to accomplish the learning step? (ex.: information sheet, activity sheet, sound/slide)	1	
	22. Is the number coding for each resource consistent with the department numbering system?	1	
	23. Is the location of each resource identified?	1	
	24. Are there a variety of types of resources identified? (ex.: print, activities, audio-visual media)	1	
	25. Does the type of resource seem appropriate for the learning step? (ex.: reviewing a task using study questions or an activity sheet as a resource)	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 25
TOTAL POINTS POSSIBLE = 25

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	004

MICRO - PERFORMANCE OBJECTIVE #5

Develop an Information Sheet

LEARNING STEPS

1. Read Resource #1 for information on preparing information sheets.
2. Complete Resource #2 for a self-check on information sheets and to prepare information sheets.
3. Go on to MPO #6.

RESOURCES

1. Information Sheet 005-005-001, "Prepare Information Sheets," in this guide, pages 77-81.
2. Activity Sheet 005-005-002, "Prepare Information Sheets," in this guide, pages 82-84.
3. MPO #6 in this guide, page 85.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	005

INFORMATION SHEET

005-005-001

Prepare Information Sheets

The term "information sheets" as we are using it here refers to print resources, included in the learning guide, that provide information necessary to complete a particular task.

There are three types of information sheets. Those that contain:

1. Procedural steps and lists of necessary tools, equipment, and materials.
2. Written summaries of information found in other learning materials.
3. Information not found in other learning materials.

The following is an example of the directions given to CIVEC writers in developing information sheets.

INFORMATION SHEET

(Place the coded number here)

(This sheet is used, whenever needed in the learning guide, to focus on some particular aspect. The instructor may want to inject some personal knowledge or experience or may wish to pull together several references, consolidate their information and paraphrase them. As implied, this sheet is just information!!

Information sheets will be in numerical sequence within each learning guide. They may include flow charts, pictures, graphs, charts, etc.)

NOTE: Do not use copyright materials unless you have obtained a release which is signed by the copyright holder.

INFORMATION SHEET

005-005-001 (Continued)

The following is a sample information sheet which contains procedural steps.

SAMPLE INFORMATION SHEET

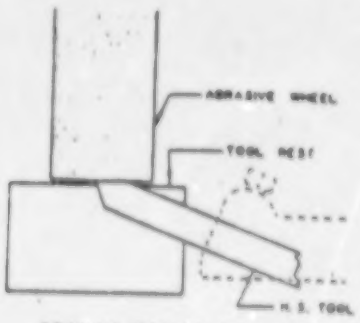
293-002-003

Directions: You are to return to the machine trades lab and contact the instructor for two 5/16" x 2-½" square mild steel work pieces. Using the procedure outlined below, grind 4 60° threading tools. Have your instructor check your 4 practice tool bits.

Procedure:

1. Grind end relief of tool.
2. Grind top of tool to eliminate back rake given by the holder (Figure 6).

   Note: Tool bit may be placed in a tool holder after grinding to check for 0° rake.
3. Grind the included angle of the tool and at same time grind side relief on the leading or cutting edge (Figure 7). Tool bit should be tilted when grinding so that the cutting edge will be parallel to the axis of the straight abrasive wheel.



GRINDING TOP OF TOOL BIT

Figure 6. Grinding Top of Tool Bit.

NOTE: Each of the procedural steps are included in the order they would be completed when performing the task. All of the tools, equipment and materials necessary to perform the task may also be included.

INFORMATION SHEET

005-005-001 (Continued)

Information Sheets that Summarize Information Found in Other Resources

Occasionally, it will be necessary to write information sheets that summarize information found in other resources. There are several reasons for summarizing this information:

Reading level - often material found in textbooks is written at a reading level that is too high for your students. By modifying the reading level, your students will be better able to understand the material.

Resource availability - many times print resources are not available in sufficient quantity for your students to use them.

Edit material - so that students do not have to read a lot of material they already know to get at a few new points.

Information Sheets that Include Information not Found in Other Resources

Occasionally, due to the rapid changes in technology, important information that you need to convey to your students does not appear in any existing print resources. When this happens, you may need to write an information sheet that includes the important information.

Location of Information Sheets in the Learning Guide

Information sheets are always placed in the learning guide immediately after the first MPO page that refers to them.

Guidelines for Preparing Information Sheets

Your information sheets will be clear and concise if you will follow these guidelines for preparing information sheets:

INFORMATION SHEET

005-005-001 (Continued)

Write "Information Sheet" at the top of the page.

Number the information sheet by writing: Information Sheet, the task - MPO - resource numbers at the top of the page.

Title your information sheet by writing the name of the MPO under the task - MPO - resource numbers.

Write your information sheet clearly using:

- simple, basic vocabulary
- short, concise sentences
- short paragraphs

Remember: Short, easily understandable words used in short sentences can be clearly read and understood by most students.

The following page is another example of an information sheet.

Sample
INFORMATION SHEET
368-001-002

AMERICAN STANDARD TAPER PIPE THREADS

1. GENERAL: American Standard Taper Pipe Threads are similar to 60° threads with the exception that the lathe taper attachment is used to thread a taper of 3/4" per foot, and the threads are slightly flattened or truncated to 0.033 of the pitch. A tapered thread permits a tighter connection of pipe couplings and pipe joints than would be possible with a straight thread. The threading tool is set at right angles to the axis of the work, Figure 1.

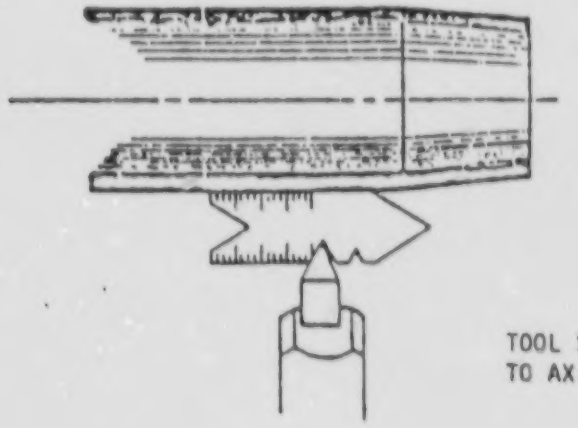


Figure 1. Threading Tool Set at Right Angles to the Work Axis

2. THREAD NOMENCLATURE: The nomenclature of taper pipe threads and the calculations involved when cutting taper pipe threads, as given in Figure 2, are as follows:

   a. Thread Angle: The angle between the sides of the thread is 60° and a line bisecting the 60° angle would be perpendicular to the thread axis.

   b. Thread Depth: The basic thread depth is 0.98 x pitch of thread.

   c. Truncation: The crest and the root are truncated an amount equal to 0.033 x pitch of thread.

   d. Thread Taper: The taper of thread on the diameter is 3/4" taper per foot.

   e. Nominal Pipe Size: The nominal pipe size is the inside diameter of the pipe.

   f. Outside Diameter: The outside diameter of the pipe is found by measuring the outside diameter of the pipe or by referring to a calculation table such as found in Figure 2.

ACTIVITY SHEET

005-005-002

1. What are the three types of information sheets?

2. Put the following procedural steps for preparing information sheets in their proper order by placing an "A" before the first step, "B" before the next, etc.

   _____ Choose which type of information sheet you will prepare.

   _____ Title the information sheet by writing out the MPO.

   _____ Write the resource number on the information sheets.

   _____ Write the information sheet.

3. Where are information sheets located in the Learning Guide?

4. Complete the following sentences.

   Information sheet sentences should always be _____ and concise.

   Use _____, basic vocabulary when preparing an information sheet.

   Information sheets should always be as _____ and concise as possible.

5. Now it's your turn to prepare information sheets for the guide that you are designing. Using this unit as a reference, prepare one example of each of the three types of information sheets for your task. When you have completed your information sheets, look them over, and have your school's CBVE resource person evaluate them using the following checklist.

ACTIVITY SHEET 005-005-002

Answer Key

1. Information sheets that list procedural stpes in a task.
   Information sheets that summarize information found in other resources.
   Information sheets that include information not found in other existing resources.

2. __A__ Choose which type of information sheet you will prepare.

   __B__ Title the information sheet by writing out the MPO.

   __C__ Write the resource number on the information sheets.

   __D__ Write the information sheet.

3. An information sheet should always be placed in the learning guide immediately after the first MPO page that refers to it.

4. Complete the following sentences.

   Information sheet sentences should always be short and concise.

   Use simple, basic vocabulary when preparing an information sheet.

   Information sheets should always be as short and concise as possible.

5. You must score 8 out of 8 on the checklist to go on in this manual.

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	YES	NO
	ACTIVITY SHEET 005-005-002 Information Sheet Checklist		
	1. Is "Information Sheet" written at the top of the page?	1	
	2. Is the information sheet numbered?	1	
	3. Does the information sheet have a title?	1	
	4. Is the information sheet written clearly?	1	
	5. Does the information sheet use:		
	Simple basic vocabularly?	1	
	Short, concise sentences?	1	
	Short paragraphs?	1	
	6. Is the information sheet dated?	1	

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	005

TOTAL POINTS 8
POINTS EARNED ____
POINTS NEEDED 8

MICRO - PERFORMANCE OBJECTIVE #6

Develop an Activity Sheet

LEARNING STEPS

1. Read Resource #1 for information on informal assessment instruments.
2. Complete Resource #2 for a self-check on informal assessment instruments.
3. Read Resource #3 for information on the preparation of an activity sheet.
4. Complete Resource #4 to develop an activity sheet.
5. Read Resource #5 for a review of evaluation instruments.
6. Complete Resource #6 for a self-check on evaluation.
7. Go on to MPO #7.

RESOURCES

1. Information Sheet 005-006-001, "Informal Assessment Instruments," in this guide, pages 86-89.
2. Activity Sheet 005-006-002, "Self-Check on Activity Sheets," in this guide, pages 90-91.
3. Information Sheet 005-006-003, "Activity Sheets," in this guide, page 92.
4. Activity Sheet 005-006-004, "Develop Activity Sheets," in this guide, page 93.
5. Information Sheet 005-006-005, "Formal Evaluation Instruments," in this guide, pages 94-98.
6. Activity Sheet 005-006-006, "Evaluation," in this guide, pages 99-100.
7. MPO #7 in this guide, page 101.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	006

INFORMATION SHEET
005-006-001

Informal Assessment Instruments

Activity Sheets

One of the purposes of testing is to provide feedback to the learner. The probability of the student learning and retaining information increases when

1. there are frequent opportunities to review information;
2. feedback is provided to the student as soon as possible.

Since our primary objective as instructors is to have students learn and retain the information in each task, we must provide frequent opportunities for feedback within each task.

One way you can accomplish this is by developing activity sheets. These activity sheets provide an opportunity to the student for review of material previously covered in the task. They are usually brief and relate to only one MPO. The activity sheet may take the form of questions or it may instruct the student to complete some type of project which will serve as a review. (For an explanation of each of these types, please refer to pages 160-171 in Individualizing Vocational and Technical Instruction, by David J. Pucel and William C. Knaak.) Let's take a look at situations requiring each form of an activity sheet.

If the material presented in an MPO is mainly "knowing" information, you will probably choose to have an activity that requires the student to answer questions you use. You can select from true-false, completion, matching, listing, multiple-choice, and essay items.

There are occasions when you may want the activity sheet to instruct the student to complete some type of project. This project might be assembling tools for a procedure, gathering ingredients for a recipe, or preparing a form which will be used for an accounting procedure. This type of activity still allows the student to review the information you have presented. By completing the project, the learner can see whether or not the information presented has been understood.

Once the student has completed the activity, feedback must be provided. You may choose to have the student check his/her own responses against an answer key. This key may be inserted into each guide or kept by the instructor. By having the student check his/her own responses, you can assure immediate feedback. The student can see how successful he/she was as soon as the questions are answered. This method does rely on the student's ability to responsibly handle independent learning since the instructor may never know the student's score on the activity.

If you feel that the activity requires an instructor's evaluation, direct the student to submit the activity to you when it is completed. Remember that in the early stages of learning the immediacy of feedback is extremely important. If an instructor's evaluation is required, RETURN THE REVIEWED ACTIVITY TO THE STUDENT AS SOON AS POSSIBLE.

With few exceptions, some type of activity sheet should be included in each MPO. This will assure that the student has achieved one objective of the task before going on to the rest of the task. On the next page you will see how an activity might be referenced on the MPO page and how it might appear in the guide.

MPO #1. Identify the ingredients and utensils needed for preparing a basic cream sauce and their locations.	
Learning Steps	**Resources**
1. Read Resource #1 which identifies the ingredients for a basic cream sauce.	1. Information Sheet 007-001-001 in this guide.
2. Read Resource #2 which identifies the utensils needed.	2. Information Sheet 007-001-002 in this guide.
3. Complete Resource #3 by locating ingredients and utensils in kitchen.	3. Activity Sheet 007-001-003 in this guide.

Activity Sheet

007-001-003

Ingredients and Utensils Needed for Preparing a Basic Cream Sauce

Directions: Make a list of the ingredients and utensils needed for preparing a basic cream sauce. Take your list to the kitchen and locate each ingredient and utensil. If you have any difficulty locating any item, contact your instructor for assistance.

The activity sheet on the previous page directed the student to complete a small project. Below you can note the other type of activity sheet.

MPO #1. Identify the procedure for sewing on a button.

Learning Steps	Resources
1. Read Resource #1 which identifies the procedure for sewing on a button.	1. Information Sheet 119-001-001 in this package.
2. View Resource #2 which demonstrates the procedure.	2. Sound-on-Slide 119-001-002 in LRC.
3. Complete Resource #3 as a review of the information. Check your answers with the key.	3. Activity 119-001-003 in this package.

Activity Sheet
119-001-003

Procedure for Sewing on a Button

Directions: Listed below are the procedural steps for sewing on a button. Put them in the correct order by numbering the correct first step #1, the second step #2, etc. When you have finished, check your responses with answer key 119-001-003 located with LRC aide. If you have questions, contact your instructor.

____ Match button with hole opening.

____ Select thread to match button.

____ Knot end of double thread.

⋮

Oral Quiz

Another type of assessment instrument you can integrate with your guide is the oral quiz. This quiz can be used instead of or in addition to the activity sheet. It's chief purpose is the same as the activity: it provides feedback to the student regarding his/her progress within the learning guide.

The oral quiz, like the activity, should be introduced after the student has been given some new information. The learning step should be stated like this:

Learning Steps	Resources
1.	1. . . . .
2.	2. . . . .
3. Contact your instructor for an oral review of the information in this MPO.	3. Instructor

When the student contacts you for the oral quiz, ask him/her questions covering the information in the MPO. You will want to have an outline of questions which cover the material in the MPO. The questions will be similar to those that might appear on any activity sheet.

The oral quiz has the following advantages:

- It lets you hear the student's response so you, as well as the student, receive feedback.
- It allows you to ask additional questions for clarification of an answer.
- It allows you to ask additional questions if you think a student is unsure of a certain area.
- It lets you give immediate feedback to the student regarding the appropriateness of his/her responses.
- It enables you to provide further explanation for areas where the student is not clear.
- It enables non-readers to respond orally rather than by a written form.

There are two disadvantages to this method of assessment:

- It is time-consuming.
- It puts more responsibility for learning on the instructor that the activity sheet does.

Depending on the nature of the information, the advantages may strongly outweigh the disadvantages.

005-006-002

Self-Check on Activity Sheets

Listed below are several phrases describing informal assessment tools. For each phrase, determine the instrument being described. Indicate the instrument by placing A.S. in the blank for activity sheet, or O. Q. for oral quiz. There may be more than one answer for some phrases.

1. _____ referenced on the MPO page
2. _____ should be included in each MPO
3. _____ time-consuming
4. _____ attached to the learning guide
5. _____ may direct the student to complete a project
6. _____ can be constructed using any type(s) of item(s)
7. _____ generally brief
8. _____ can be corrected by the student
9. _____ prepares the student for mastery exams
10. _____ allows you to give immediate feedback
11. _____ reviews entire task
12. _____ enables instructor to provide immediate clarification of information

ANSWER KEY

For Activity Sheet 005-006-002

1. All referenced on the MPO page
2. A.S. should be included in each MPO
3. O.Q. time-consuming
4. All attached to the learning guide
5. A.S. may direct the student to complete a project
6. A.S. can be constructed using any type(s) of item(s)
7. A.S. generally brief
8. A.S. can be corrected by the student
9. All prepares the student for mastery exams
10. O.Q. allows you to give immediate feedback
11. O.Q. reviews entire task
12. O.Q. enables instructor to provide immediate clarification of information

INFORMATION SHEET

005-006-003

Activity Sheets

Your activity sheets will be clear and concise if you follow these guidelines for preparing them:

Write "Activity Sheet" on the top of the page.

Number the activity sheet by writing the task - MPO - resource numbers at the top of the page.

Entitle the sheet at the top of the page.

Write your activity sheet clearly.

Date your activity sheet with the development or revision date at the bottom of the page.

Write your activity sheet to cover the material covered in each MPO.

The following are guidelines used by writers in completing activity sheets.

ACTIVITY SHEET

(Place the coded number here)

(Place the title here)

(Activity sheets are used in the SLG to guide the student in practicing or completing an activity or in self-assessment. Activity sheets may include questions to be answered, laboratory set up procedures, self-assessment items, and directions for completing an activity.)

(The primary objective of the activity sheet is to assist the student in learning the information within a task. As implied, the student is involved in some sort of activity!)

(The activity sheet is a critical item for instructor involvement.)

ACTIVITY SHEET

005-006-004

Develop Activity Sheets

In this manual, you have developed a learning guide which is complete except for the assessment instruments. You should now develop informal assessment tools which review the information contained in your guide. Develop an activity sheet or oral quiz for each MPO and reference them on the MPO pages. Take the informal assessment tools and MPO sheets to your school's CBVE resource person for evaluation using the following checklist. You must score 6 out of 6 to go on in this manual.

If you developed a competency sheet or ETE style SLG, you may disregard the reference to MPOs. You will still need to develop activity sheets for your appropriate learning steps.

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	ACTIVITY SHEET 005-006-004 Activity Sheet Checklist		
	1. Is Activity Sheet written at the top of the page?	1	
	2. Is the activity sheet numbered?	1	
	3. Is the activity sheet written clearly?	1	
	4. Is the activity sheet dated?	1	
	5. Is the type of activity appropriate to the MPO? (i.e., cognitive or psychomotor, or both)	1	
	6. Does the activity sheet cover the information presented in the MPO?	1	
	TOTAL POINTS EARNED =		
	POINTS NEEDED FOR MASTERY = 6 TOTAL POINTS POSSIBLE = 6		

DEPT.	PROG	TASK	TPO	MPO

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	006

INFORMATION SHEET

005-006-005

Formal Evaluation Instruments

PURPOSE: Formal evaluation instruments are used to determine mastery, provide feedback to instructor and student and identify areas of strengths and weaknesses.

TYPES: Written criterion exams

Product checklists

Performance checklists

Product/Performance checklists

Written Criterion Exams

Written criterion exams are usually objective tests used to assess student knowledge comprehension of a task. The primary objective of these instruments is to measure the cognitive (knowledge) aspects of the task. For "knowing" tasks composed mainly of theory, rules, and information, the written criterion exam may be the only evaluation instrument to determine whether or not a student has mastered a task. For more information on written exams, review PTTM #4.

The following is a cover page, which may be used for a written exam.

005-006-005 (Continued)

Sample Cover Page for a Written Criterion Exam

PROGRAM _____

CRITERION EXAM

TASK # _____

DIRECTIONS:

THE PURPOSE OF THIS EXAM IS TO DETERMINE WHETHER OR NOT YOU HAVE UNDERSTOOD THE INFORMATION ON _____ _____.

Each of the questions or incomplete statements below is followed by several words, phrases, or a series of numbers. Choose the one which best answers the question or completes the statement correctly. Place the letter associated with that choice (A, B, C or D) in the numbered blank space on your ANSWER SHEET. DO NOT WRITE ON THIS TEST! To master this exam you must answer _____ **out of** _____ **items correctly, (**_____**%).**

INFORMATION SHEET

005-006-005 (Continued)

Checklists

Checklists are used to measure the psychomotor (doing) activities of the task. "Doing" tasks generally have some cognitive information integrated within the SLG which are measured by the criterion exams.

Performance Checklists contain a list of key performance criteria which the instructor will rate while watching a student perform the task. A successful score signals task mastery.

Product Checklists contain a list of key product criteria used to evaluate the finished product.

Performance/Product Checklists are a combination of key performance and product criteria used to evaluate task performance.

(For specific steps to follow in developing checklists, refer to PTTM #4.)

The following two pages are examples of the cover page used with checklists and the actual checklist form.

Example Cover Page Used With Checklists

PROGRAM:

TASK:

TASK #

PERFORMANCE/PRODUCT CHECKLIST

STUDENT'S NAME _____ **EVALUATION SITE** _____

EVALUATOR'S NAME _____ **PERFORMANCE ATTEMPT** 1 2 3 4

DATE OF ATTEMPT _____ _____ _____ _____

TERMINAL PERFORMANCE OBJECTIVE:

DIRECTIONS TO THE STUDENT:

BEFORE ATTEMPTING THIS TASK FOR MASTERY, CAREFULLY REVIEW THIS CHECKLIST. YOU WILL BE EVALUATED ON THE BASIS OF THIS CHECKLIST. WHEN YOU FEEL YOU ARE READY FOR EVALUATION CONTACT YOUR INSTRUCTOR. YOU MUST COMPLETE YOUR PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE AT LEAST_____ OUT OF _____ POINTS OR _____ % FOR MASTERY. CRITICAL ITEMS ARE MARKED WITH AN ASTERISK (*). THESE ITEMS MUST BE SATISFACTORILY COMPLETED.

DIRECTIONS TO THE EVALUATOR:

THE STUDENT WILL CONTACT YOU WHEN READY FOR EVALUATION. THE STUDENT MUST COMPLETE THE PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE _____ OUT OF _____ POINTS OR _____ % AND ALL ITEMS MARKED WITH AN ASTERISK (*) MUST BE SATISFACTORILY COMPLETED.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	006

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	Example Blank Checklist Page INFORMATION SHEET 005-006-005 (Continued)		

TOTAL POINTS EARNED =

POINTS NEEDED FOR MASTERY =
TOTAL POINTS POSSIBLE =

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	006

ACTIVITY SHEET

005-006-006

Evaluation

1. List three purposes of testing.

   A.

   B.

   C.

2. Explain this statement in your own words: A training program may only be as valid as the evaluation instruments.

3. What two factors increase the probability of a student learning and retaining material during the early stages of learning?

4. The objective stated below applies to _____ assessment instruments.

   > The primary objective of these tools is to assist the student in learning the material within a task.

5. Indicate which of the tools listed below are formal assessment tools by placing an "X" in the appropriate blanks.

   A. ___ Activity sheets

   B. ___ Written criterion exams

   C. ___ Product checklists

   D. ___ Oral exams

   E. ___ Performance checklists

6. Using the SLG you have been developing, write the written exam and/or checklist. Have your school's CBVE resource person check your work.

ANSWER KEY

For Activity Sheet 005-006-006

1. Determine mastery

   Provide feedback

   Identify strengths and weaknesses

2. Mastery of a task is based on a test or checklist score. If an instrument does not accurately measure the task, the score will not accurately indicate the student's performance. Therefore, a training program might be only as valid as the instruments used to determine mastery.

3. Two factors that increase the probability of a student learning and retaining new material are:

   Frequent opportunities for review

   Reviewing of immediate feedback

4. The objective stated below applies to informal assessment instruments.

   The primary objective of these tools is to assist the student in learning the material within a task.

5. B. X Written criterion exams

   C. X Product Checklists

   E. X Performance checklists

MICRO - PERFORMANCE OBJECTIVE #7

Develop A Competency Sheet or SLG

LEARNING STEPS

1. Read Resource #1 to review how to write an SLG or competency sheet.
2. When you feel ready for evaluation on how to write a SLG or competency sheet, complete Resource #2.
3. Read Resource #3 to review the performance required for mastery of this task.
4. When you feel that you can write an SLG or competency sheet, contact your school's CBVE resource person and complete Resource #4.
5. Complete Resource #5 to evaluate this manual.
6. After mastery of this task, go on to Resource #6.

RESOURCES

1. MPOs 1-6 in this guide.
2. Written Exam, Task 005. Contact your school's CBVE resource person.
3. Product Checklist, Task 005, in this guide, page 102.
4. Product Checklist, Task 005, in this guide, page 107, contact your school's CBVE resource person.
5. SLG Evaluation Form. See your school's CBVE resource person.
6. Manual #6 in this series.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	007

PROGRAM Professional Teacher Training

CRITERION EXAM

TASK # 005

DIRECTIONS:

THE PURPOSE OF THIS EXAM IS TO DETERMINE WHETHER OR NOT YOU HAVE UNDERSTOOD THE INFORMATION ON write student learning guides or competency sheets.

Each of the questions or incomplete statements below is followed by several words, phrases, or a series of numbers. Choose the one which best answers the question or completes the statement correctly. Place the letter associated with that choice (A, B, C or D) in the numbered blank space on your ANSWER SHEET. DO NOT WRITE ON THIS TEST! To master this exam you must answer 18 **out of** 20 **items correctly, (** 90 **%).**

WRITTEN EXAM 005

1. A behavioral objective, detailed learning steps, information and activity sheets, and criterion referenced evaluations are all components of a quality learning package.

   __True __False

2. The part of a learning package which informs the student exactly what is to be learned and its mastery level is the _____.

   A. Behavioral objective
   C. MPO
   B. Learning step
   D. Purpose statement

3. The part of a learning package which provides the student motivation to learn is the _____.

   A. Behavioral objective
   C. MPO
   B. Learning step
   D. Purpose statement

4. The _____ guide(s) the student through a structured learning process.

   A. Behavioral objective
   C. Criterion referenced measures
   B. Learning steps
   D. Purpose statement

5. Mastery of each task is evaluated using _____.

   A. Behavioral objective
   C. Criterion referenced measures
   B. Learning steps
   D. Activity sheets

6. The instructor is involved at many points in the learning process when using a competency based system.

   __True __False

7. In a competency based system, materials should be presented in a variety of ways to reach all types of learners.

   __True __False

8. A single page learning package is called a _____.

   A. Competency Sheet
   B. Learning guide
   C. Information sheet
   D. Activity sheet

9. The cover of the ETE style SLG has the tool list on it.

   __True __False

10. The cover of the CIVEC style SLG has the objective on it.

    __True __False

11. The ETE style SLG breaks learning steps into MPOs.

    __True __False

12. Using the competency sheet is the best way to get a program developed and implemented in the least amount of time.

    __True __False

13. The PTTMs are written in the CIVEC style.

    __True __False

14. A behavioral objective describes conditions of learning - not conditions of evaluation.

    __True __False

15. A behavioral objective describes what is to be learned, how well it must be learned, and under what conditions the student will be evaluated.

    __True __False

16. Information sheets are used to introduce new equipment, tools, or techniques not found in other resources.

    __True __False

17. Activity sheets are used to provide practice recall, application, and provide feedback.

    __True __False

18. Activity sheets are used to evaluate a student for mastery of a task.

    __True __False

19. A checklist is used to evaluate the psychomotor parts of a task.

    __True __False

20. A written exam is used to evaluate the knowing parts of a task.

    __True __False

ANSWER KEY

For Written Exam 005

1. T
2. A
3. D
4. B
5. C
6. T
7. T
8. A
9. F
10. F
11. F
12. T
13. T
14. F
15. T
16. T
17. T
18. F
19. T
20. T

PROGRAM: Professional Teacher Training

TASK: Develop a Competency Sheet or Student Competency Guide

TASK # 005

PERFORMANCE/PRODUCT CHECKLIST

STUDENT'S NAME _____ **EVALUATION SITE** _____

EVALUATOR'S NAME _____ **PERFORMANCE ATTEMPT** 1 2 3 4

DATE OF ATTEMPT ____ ____ ____ ____

TERMINAL PERFORMANCE OBJECTIVE:

GIVEN: access to all necessary resources and your program task list

YOU WILL: develop a competency sheet or student competency guide

DIRECTIONS TO THE STUDENT:

BEFORE ATTEMPTING THIS TASK FOR MASTERY, CAREFULLY REVIEW THIS CHECKLIST. YOU WILL BE EVALUATED ON THE BASIS OF THIS CHECKLIST. WHEN YOU FEEL YOU ARE READY FOR EVALUATION CONTACT YOUR INSTRUCTOR. YOU MUST COMPLETE YOUR PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE AT LEAST 32 OUT OF 34 POINTS OR 94 % FOR MASTERY. CRITICAL ITEMS ARE MARKED WITH AN ASTERISK (*). THESE ITEMS MUST BE SATISFACTORILY COMPLETED.

DIRECTIONS TO THE EVALUATOR:

THE STUDENT WILL CONTACT YOU WHEN READY FOR EVALUATION. THE STUDENT MUST COMPLETE THE PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE 32 OUT OF 34 POINTS OR 94 % AND ALL ITEMS MARKED WITH AN ASTERISK (*) MUST BE SATISFACTORILY COMPLETED.

DEPT	PROG	TASK	TPO	MPO
	PTT	005	005	007

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	PRODUCT CHECKLIST Task 005 Develop a Student Competency Sheet		
	A. Program Information Included:		
	1. CIP #	1	
*	2. Program Title	1	
	3. Duty	1	
*	4. Task #	1	
*	5. Task Title	1	
	B. Student Performance Objective Included:		
*	6. Conditions of performance not conditions of learning (given)	1	
*	7. Description of performance (you will)	1	
*	8. Level of acceptability including time restrictions, type of evaluation (test or checklist) and score required (how well)	1	
	C. Learning Activities:		
*	9. Begin with a hard action verb	1	
*	10. Are an orderly sequence of activities	1	
*	11. Contain direction and purpose (what to do and why)	1	
*	12. Contain a description of references needed	1	
*	13. Describe the location of references needed	1	
*	14. Indicate the resource number	1	
*	15. Provide for reasonable blocks of information to be taught at one time	1	
*	16. Provide sufficient practice exercises before evaluation	1	
*	17. Present cognitive information prior to practice	1	
*	18. Involve the instructor to provide frequent feedback	1	
*	19. Provide a variety of types of resources (information sheets, textbooks, A/V, etc.)	1	
*	20. Direct the student to the evaluation as the last step	1	
*	21. Is "Information Sheet" written at the top of the page?	1	
*	22. Is the information sheet numbered?	1	
*	23. Does the information sheet have a title?	1	
*	24. Is the information sheet written clearly?	1	
	25. Does the information sheet use:		
*	simple, basic vocabulary?	1	
*	short, concise sentences?	1	
*	short paragraphs?	1	
	26. Is the information sheet dated?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY =
TOTAL POINTS POSSIBLE =

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	007

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	PRODUCT CHECKLIST Task 005 (Continued)		
	D. Activity Sheet Checklist		
*	27. Is "Activity Sheet" written at the top of the page?	1	
*	28. Is the activity sheet numbered?	1	
*	29. Is the activity sheet written clearly?	1	
	30. Is the activity sheet dated?	1	
*	31. Is the type of activity appropriate to the MPO? (i.e., cognitive or psychomotor, or both)	1	
*	32. Does the activity sheet cover the information presented in the MPO?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 32
TOTAL POINTS POSSIBLE = 34

PROGRAM: Professional Teacher Training

TASK: Develop an ETE Style SLG

TASK # 005

PERFORMANCE/PRODUCT CHECKLIST

STUDENT'S NAME _____ **EVALUATION SITE** _____

EVALUATOR'S NAME _____ **PERFORMANCE ATTEMPT** 1 2 3 4

DATE OF ATTEMPT ____ ____ ____ ____

TERMINAL PERFORMANCE OBJECTIVE:

GIVEN: access to all necessary resources and your program task list

YOU WILL: develop an ETE style SLG

DIRECTIONS TO THE STUDENT:

BEFORE ATTEMPTING THIS TASK FOR MASTERY, CAREFULLY REVIEW THIS CHECKLIST. YOU WILL BE EVALUATED ON THE BASIS OF THIS CHECKLIST. WHEN YOU FEEL YOU ARE READY FOR EVALUATION CONTACT YOUR INSTRUCTOR. YOU MUST COMPLETE YOUR PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE AT LEAST 37 OUT OF 40 POINTS OR 93 % FOR MASTERY. CRITICAL ITEMS ARE MARKED WITH AN ASTERISK (*). THESE ITEMS MUST BE SATISFACTORILY COMPLETED.

DIRECTIONS TO THE EVALUATOR:

THE STUDENT WILL CONTACT YOU WHEN READY FOR EVALUATION. THE STUDENT MUST COMPLETE THE PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE 37 OUT OF 40 POINTS OR 93 % AND ALL ITEMS MARKED WITH AN ASTERISK (*) MUST BE SATISFACTORILY COMPLETED.

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	007

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	Checklist 005		
	Develop an ETE Style SLG		
	A. Cover page		
	1. Is the program or school logo on the cover?	1	
*	2. Is the program name on the cover?	1	
*	3. Is the task an exact repeat from the task list?	1	
*	4. Is the task number on the cover?	1	
	5. Is the CIP Code # on the cover?	1	
	6. Is the duty area on the cover?	1	
*	7. Does the purpose statement:		
	a. Motivate the student by providing a reason for learning the task?	1	
	b. Relate this task to the rest of the curriculum on the job?	1	
*	8. Does the objective:		
	a. Describe the conditions of evaluation not conditions of learning? (Given)	1	
	b. Describe the performance? (You Will)	1	
	c. Describe the level of acceptability including time restrictions, type of evaluation (test or checklist) and score required for mastery? (How Well)	1	
*	9. Is the estimated time filled in?	1	
	B. Learning steps page		
*	10. Do all learning steps begin with a hard verb?	1	
*	11. Are the learning steps an orderly sequence of activities?	1	
*	12. Do all the learning steps contain direction and purpose? (What to do and why)	1	
*	13. Do all the learning steps contain a description of references (resources) needed?	1	
*	14. Do all the learning steps contain a description of the location of resources needed?	1	
*	15. Is every resource numbered?	1	
	16. Does each learning step provide for a reasonable block of information to be taught at one time?	1	
*	17. Are sufficient practice exercises provided before evaluation for mastery?	1	
	18. Is cognitive information presented prior to practice?	1	
*	19. Is the instructor involved frequently to provide feedback?	1	
*	20. Does the last learning step direct the student to perform for evaluation?	1	
*	21. Are a variety of types of resources used?	1	
	22. Are all resources listed in the appropriate place?	1	
	23. Is a list of equipment needed for the task supplied?	1	
	Sub- Total Points Earned =		

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	007

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	Checklist 005 (Continued)		
	C. Information Sheets		
*	24. Is "Information Sheet" written at the top of the page?	1	
*	25. Is the information sheet numbered?	1	
*	26. Does the information sheet have a title?	1	
*	27. Is the information sheet written clearly?	1	
	28. Does the information sheet use:		
*	simple, basic vocabulary?	1	
*	short, concise sentences?	1	
*	short paragraphs?	1	
	29. Is the information sheet dated?	1	
	D. Activity Sheets		
*	30. Is "Activity Sheet" written at the top of the page?	1	
*	31. Is the activity sheet numbered?	1	
*	32. Is the activity sheet written clearly?	1	
	33. Is the activity sheet dated?	1	
*	34. Is the type of activity appropriate to the MPO? (i.e., cognitive or psychomotor, or both)	1	
*	35. Does the activity sheet cover the information presented in the MPO?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY = 37
TOTAL POINTS POSSIBLE = 40

DEPT.	PROG	TASK	TPO	MPO
	PTT	005	005	007

PROGRAM: Professional Teacher Training

TASK: Develop a CIVEC Style Student Learning Guide

TASK # 005

PERFORMANCE/PRODUCT CHECKLIST

STUDENT'S NAME _____ **EVALUATION SITE** _____

EVALUATOR'S NAME _____ **PERFORMANCE ATTEMPT** 1 2 3 4

DATE OF ATTEMPT ____ ____ ____ ____

TERMINAL PERFORMANCE OBJECTIVE:

GIVEN: access to all necessary resources and your program task list

YOU WILL: develop a CIVEC style student learning guide

DIRECTIONS TO THE STUDENT:

BEFORE ATTEMPTING THIS TASK FOR MASTERY, CAREFULLY REVIEW THIS CHECKLIST. YOU WILL BE EVALUATED ON THE BASIS OF THIS CHECKLIST. WHEN YOU FEEL YOU ARE READY FOR EVALUATION CONTACT YOUR INSTRUCTOR. YOU MUST COMPLETE YOUR PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE AT LEAST 58 OUT OF 64 POINTS OR 91 % FOR MASTERY. CRITICAL ITEMS ARE MARKED WITH AN ASTERISK (*). THESE ITEMS MUST BE SATISFACTORILY COMPLETED.

DIRECTIONS TO THE EVALUATOR:

THE STUDENT WILL CONTACT YOU WHEN READY FOR EVALUATION. THE STUDENT MUST COMPLETE THE PERFORMANCE WITHIN _____ MINUTES AND MUST SCORE 58 OUT OF 64 POINTS OR 91 % AND ALL ITEMS MARKED WITH AN ASTERISK (*) MUST BE SATISFACTORILY COMPLETED.

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CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	YES	NO
	Cover Page		
*	1. Is the task an exact repeat from the task listing?	1	
	2. Does the purpose statement:		
*	A. Motivate by describing the reason why the student must learn the task?	1	
*	B. Relate this task to the rest of the curriculum or job?	1	
*	3. Is the program name on the cover?	1	
*	4. Is the program number filled in?	1	
*	5. Is the task number filled in?	1	
*	6. Is the estimated time filled in? (NOTE: At this point, make an educated guess.)	1	
*	7. Is the prerequisite task number filled in? (NOTE: Write N/A if this does not apply.)	1	
*	8. Is the date filled in?	1	
*	9. Is the developer's name and school address on the guide?	1	
	Contract Page or Objectives Page		
*	10. Does the TPO identify conditions of performance and <u>not</u> conditions of learning?	1	
*	11. Does the TPO describe measurable performance?	1	
	12. Does the TPO state:		
*	Level of acceptability?	1	
	Time restrictions if applicable?	1	
	Industrial standards if applicable?	1	
*	Type of evaluation instruments used?	1	
*	13. Does each MPO describe a specific measurable performance?	1	
*	14. Does each MPO begin with an action (hard) verb?	1	
*	15. Do basic MPOs precede complex ones?	1	
*	16. Do prerequisite skills precede advanced ones?	1	
*	17. Does successful completion of all MPOs indicate mastery level for the TPO?	1	
*	18. Are there a minimum of two MPOs?	1	
*	19. Are there no more than ten MPOs?	1	
*	20. Is each MPO a logical subsection of the task?	1	
*	21. Is each MPO a teachable section of the task?	1	

CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	RATING YES	RATING NO
	MPO Checklist		
*	22. Does each MPO describe a specific measurable performance?	1	
	23. Does each MPO begin with an active verb?	1	
*	24. Do basic MPOs precede complex ones?	1	
*	25. Do prerequisite skills precede advanced ones?	1	
	26. Does successful completion of all MPOs indicate mastery level for the TPO?	1	
	27. Are there a minimum of two MPO?	1	
	28. Are there no more than 10 MPOs?	1	
*	29. Is each MPO a logical subsection of the task?	1	
*	30. Is each MPO a teachable subsection of the task?	1	
	TOTAL POINTS EARNED =		

POINTS NEEDED FOR MASTERY =
TOTAL POINTS POSSIBLE =

DEPT.	PROG	TASK	TPO	MPO
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CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	YES	NO
	MPO Pages		
*	31. Is the MPO an exact repeat of the corresponding MPO on the learning contract?	1	
*	32. Does each learning step contain a directive (ex. read, view, complete) and the purpose of the learning step?	1	
*	33. Do learning steps indicate resource number(s)? (ex. Resource #1 or Resource #1a and #1b)	1	
*	34. Do basic learning steps precede complex steps?	1	
*	35. Do prerequisite learning steps precede advanced steps?	1	
*	36. Does successful completion of learning steps indicate achievement of MPO?	1	
*	37. Are there sufficient practice exercises within each MPO to help them perform the behavior specified in the objective?	1	
*	38. Are learning steps divided in such a way to provide for reasonable blocks of information to be taught at one time?	1	
*	39. Does the learning strategy for teaching each MPO appear to be reasonable and appropriate? (ex. Are behaviors sufficiently presented, practiced and reinforced?)	1	
*	40. Is the numbering system for the learning package consistent within the package?	1	
*	41. Is there a resource for each learning step?	1	
*	42. Does each resource name the specific resource(s) needed to accomplish the learning step? (ex. information sheet, activity, sound/slide)	1	
*	43. Is the number coding for each resource consistent with the department numbering system?	1	
*	44. Is the location of each resource identified?	1	
*	45. Are there a variety of types of resources identified? (ex. print, activities, audio-visual media)	1	
*	46. Does the type of resource seem appropriate for the learning step? (ex. reviewing a task using study question or an activity sheet as a resource)	1	

TOTAL POINTS _____
POINTS EARNED _____
POINTS NEEDED _____

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CRITICAL ITEMS	ITEMS TO BE OBSERVED OR CHECKED	YES	NO
	Information Sheets		
*	47. Is "Information Sheet" written at the top of the page?	1	
*	48. Is the information sheet numbered?	1	
*	49. Does the information sheet have a title?	1	
*	50. Is the information sheet written clearly?	1	
	51. Does the information sheet use:		
*	Simple basic vocabulary?	1	
*	Short, concise sentences?	1	
*	Short paragraphs?	1	
*	52. Is the information sheet dated?	1	
	Activity Sheets		
*	53. Is "Activity Sheet" written at the top of the page?	1	
*	54. Is the activity sheet numbered?	1	
*	55. Is the activity sheet written clearly?	1	
*	56. Is the activity sheet dated?	1	
*	57. Is the type of activity appropriate to the MPO? (i.e., cognitive or psychomotor or both)		
*	58. Does the activity sheet cover the information presented in the MPO?	1	

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	PTI	005	005	007

TOTAL POINTS 64
POINTS EARNED ____
POINTS NEEDED 58